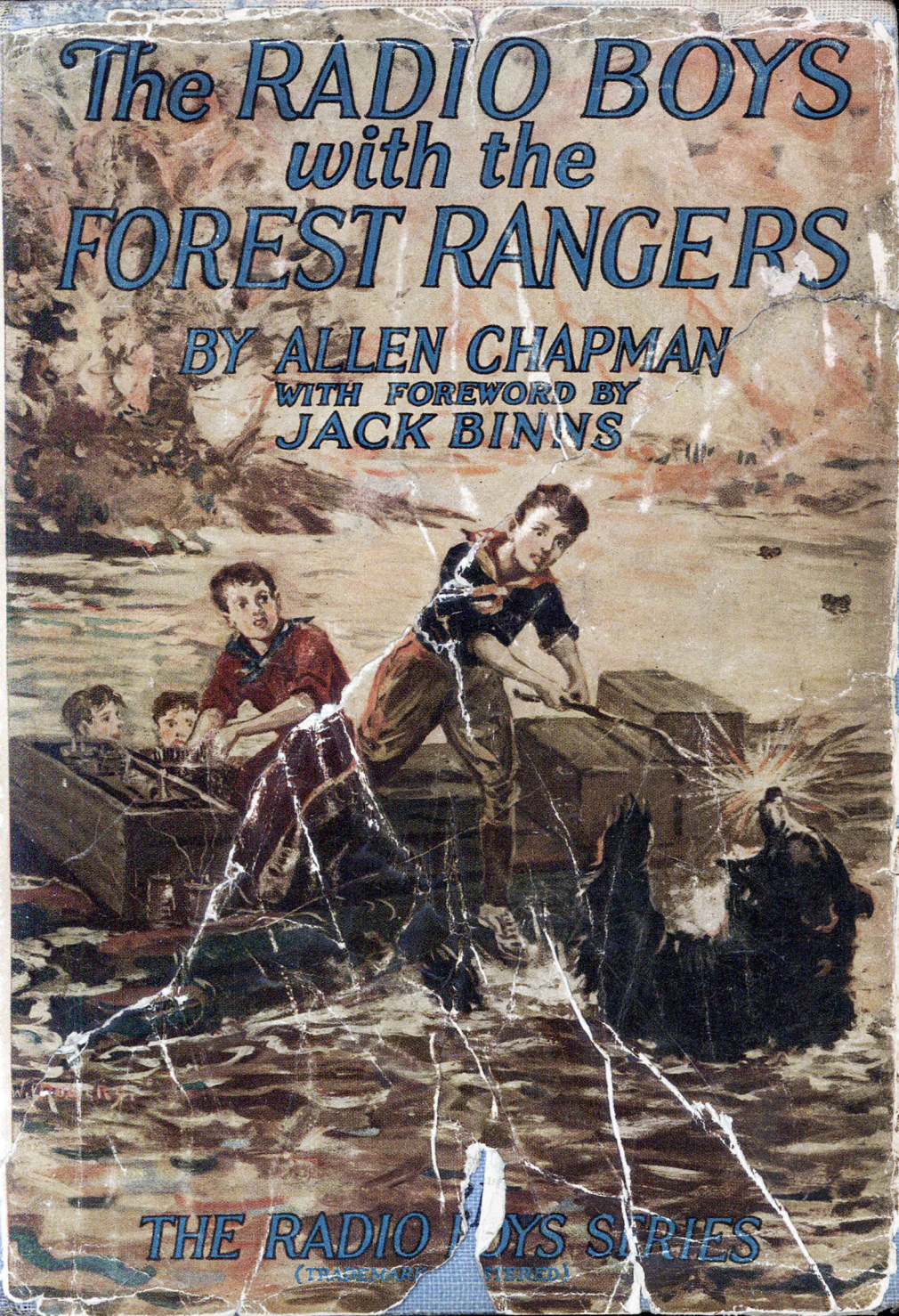
The RADIO BOYS with the FOREST RANGERS

BY ALLEN CHAPMAN

WITH FOREWORD BY JACK BINNS



THE RADIO BOYS SERIES

(TRADEMARK REGISTERED)

THE RADIO BOYS SERIES

(Trademark Registered)

THE RADIO BOYS WITH THE FOREST RANGERS

OR

The Great Fire On Spruce Mountain

By ALLEN CHAPMAN

Author of
"The Railroad Series," Etc.,
With a
FOREWORD BY JACK BINNS

The Radio Boys are deep in the pursuit of their favorite pastime when news comes of an explosion of chemicals in the store owned by the father of one of the lads. Of course they go to the rescue, and then receive a visit from an old acquaintance who is a Forest Ranger. He tells the lads of what radio has done to spread the news of forest fires and they become anxious to visit the Rangers. Soon comes an opportunity to join these fearless workers for Uncle Sam, and the particulars are given of a fierce conflagration that proved perilous in the extreme. How the boys built a raft and got out into a lake deep in the woods, and how a number of bears swam out and fought for the possession of the raft, is told in a manner to thrill every boy from eight to eighty.

25

THE RADIO BOYS SERIES

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Author of the "RAILROAD SERIES," Etc.

With a Foreword by Jack Binns, Radio Expert of the *New York Tribune*

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THE RADIO BOYS AT MOUNTAIN PASS ; Or, The Midnight Call for Assistance

THE RADIO BOYS TRAILING A VOICE ; Or, Solving a Wireless Mystery

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FOREST
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EWORD
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ALLEN CHAPMAN

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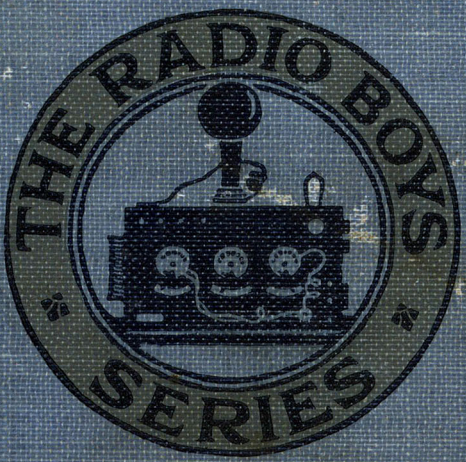

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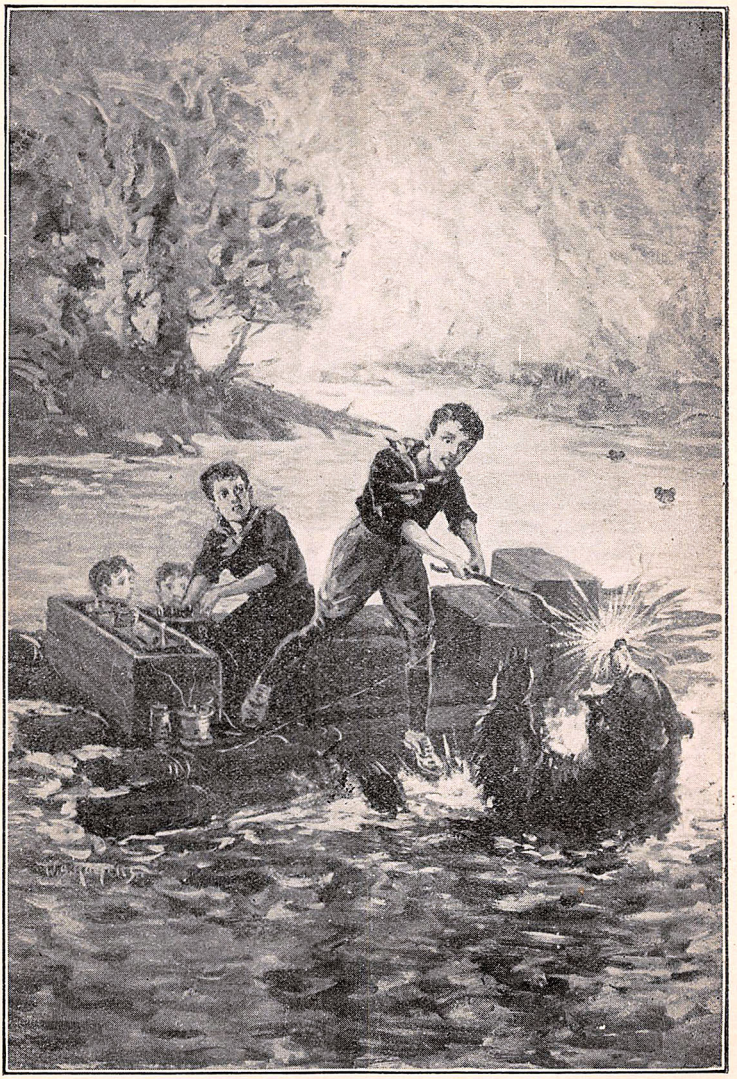

A BLUE STREAK CRACKLED BETWEEN THE TERMINAL AND THE BEAR'S NOSE.

The Radio Boys With the Forest Rangers. *Page* 189

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THE GREAT FIRE ON SPRUCE MOUNTAIN

BY

ALLEN CHAPMAN

AUTHOR OF
THE RADIO BOYS' FIRST WIRELESS
THE RADIO BOYS TRAILING A VOICE
RALPH OF THE ROUNDHOUSE
RALPH ON THE MIDNIGHT FLYER, ETC.

WITH FOREWORD BY
JACK BINNS

ILLUSTRATED

NEW YORK
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Made in the United States of America

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The Radio Boys with the Forest Rangers

FOREWORD

By Jack Binns

There are two aspects of radio as a vital factor in saving life and property which are very vividly brought out in this interesting volume of the Radio Boys Series—namely its use in connection with the patrol work in detecting forest fires, and the regular international ice patrol in the dangerous waters of the north Atlantic. So splendidly have these two functions of radio been developed, that they have become accepted as commonplace in our lives, and it is only by such stories as "The Radio Boys with the Forest Rangers" that we are awakened to their importance.

Another interesting account in this volume is the detailing of the experimental work recently carried out at the Schenectady broadcasting station, when the voice which was radiated through the ether was actually reproduced from an ordinary moving picture film.

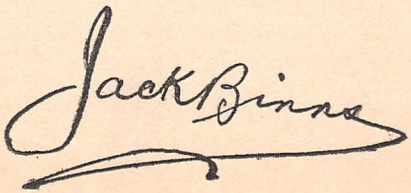
Just think of the marvel of this. *The words of the speaker were photographed* on a film, and held in storage for several weeks, before the streaks of light were re-converted into electric impulses, and then transferred into faithful reproduction of speech in a million homes. How great are the possibilities thus unfolded to the immediate future. Here we have a record that

is better than that of the phonograph, because there will be no scratchiness from a needle in its reproduction to mar the original tones.

The period over which the Radio Boys Series has been produced has seen the most remarkable all-around development of radio in history. Now upon the publication of the latest volume in the series there comes the announcement that a Hungarian scientist has been successful in transmitting an actual picture of a current event as it is occurring.

We are upon the very threshold of TELEVISION—the system which converts the etheric vibrations that correspond to vision, and translates them into impulses of electric energy which can be radiated through space, and picked up by specially designed radio receivers. The system of course can also be applied to telegraph and telephone wires.

The development of this promising invention means that in the near future we will be able to see the person to whom we are speaking, whether we use the ordinary telephone or the wireless telephone as a means of communication. This truly is an age of radio wonders!



CONTENTS

CHAPTER		PAGE
I.	A Sudden Alarm	9
II.	Almost a Tragedy	20
III.	Quick Work	32
IV.	Radio, the Fire-Conqueror	38
V.	The Wonderful Science	47
VI.	Thrashing a Bully	56
VII.	Good Riddance	68
VIII.	At Risk of Life	74
IX.	Off for Spruce Mountain	83
X.	The Falling Bowlder	92
XI.	Forest Radio	100
XII.	The Ice Patrol	108
XIII.	Winning Their Spurs	117
XIV.	The Crouching Wildcat	126
XV.	An Underground Mystery	134
XVI.	Swallowed up by the Darkness	142
XVII.	An Old Enemy	149
XVIII.	Pinned Down	158
XIX.	Fire	166
XX.	A Terrible Battle	174

CHAPTER		PAGE
XXI.	Plunged in the Lake	182
XXII.	Fighting Off the Bears	189
XXIII.	A Desperate Chance	198
XXIV.	The Blessed Rain	205
XXV.	Snatched from Death	210

THE RADIO BOYS WITH THE FOREST RANGERS

CHAPTER I

A SUDDEN ALARM

"SAY, fellows!" exclaimed Bob Layton, as he bounded down the school steps, three steps at a time, his books slung by a strap over his shoulder, "what do you think——"

"We never think," interrupted Herb Fennington. "At least that's what Prof. Preston told our class the other day."

"Speak for yourself," broke in Joe Atwood. "As for me, thinking is the best thing I do. I've got Plato, Shakespeare and the rest of those highbrows beaten to a frazzle."

"Sure thing," mocked Jimmy Plummer. "But don't think because you have notions in your head that you're a whole department store."

Bob surveyed his comrades with a withering glare.

"When you funny fellows get through with your per-per-persiflage——" he began.

"Did you get that, fellows?" cried Jimmy.

"Persiflage! Great! What is it, Bob? A new kind of breakfast food?"

"I notice it almost choked him to get it out," remarked Joe, with a grin.

"Words of only one syllable would be the proper size for you fellows," retorted Bob. "But what I was going to say was that I just heard from Mr. Bentley. You know the man I mean, the one that we saw at my house some time ago and who gave us all that dope about forest fires."

"Oh, you mean the forest ranger!" broke in Joe eagerly. "Sure, I remember him. He was one of the most interesting fellows I ever met."

"I'll never forget what he told us about radio being used to get the best of forest fires," said Herb. "I could have listened to him all night when once he got going."

"He's a regular fellow, all right," was Jimmy's comment. "But what about him? When did you see him?"

"I haven't seen him yet," explained Bob. "Dad got a letter from him yesterday. You know dad and he are old friends. Mr. Bentley asked dad to remember him to all the radio boys, and said to tell us that he was going to give a talk on radio and forest fires from the Newark broadcasting station before long and wanted us to be sure to listen in."

"Will we?" returned Joe enthusiastically. "You bet we will! But when's the talk coming off?"

"Mr. Bentley said that the exact date hadn't been settled yet," replied Bob. "But it will be some time within the next week or ten days. He promised to let us know in plenty of time."

"I wouldn't miss it for a farm," chimed in Jimmy. "But if it's great to hear about it, what must it be to be right in the thick of the work as he is? Some fellows have all the luck."

"Perhaps there are times when he doesn't think it luck." laughed Bob. "Half a dozen times he's just escaped death by the skin of his teeth. But look, fellows, who's coming."

The others followed the direction of Bob's glance and saw a group of three boys coming toward them. One, who seemed to be the leader, was a big hulking fellow with a pasty complexion and eyes that were set too close together. At his right was a boy slightly younger and on the outside another, younger yet, with a furtive and shifty look.

"Buck Looker, Carl Lutz and Terry Mooney!" exclaimed Bob. "I haven't come across them since we got back from the woods."

"Guess they've kept out of our way on purpose," remarked Joe. "You can bet they've felt

mighty cheap over the way you put it over on them in the matter of those letters."

"'There were three crows sat on a tree,'" chanted Jimmy.

"'And they were black as crows could be,'" finished Herb.

The objects of these unflattering remarks had caught sight of the four boys, and as at the moment they were at a corner, they hesitated slightly, as though they were minded to turn down the side street. But after conferring for a moment, they kept on, their leader assuming a swaggering air. And whereas before the three had been simply conversing as they came along, they now began a boisterous skylarking, snatching each other's caps and knocking each other about.

Just as they came abreast of the other group, Buck gave Lutz a violent shove and sent him with full force against Joe, who was nearest. The latter was taken unawares and almost knocked off his feet.

Joe had a quick temper, and the malicious wantonness of the act made his blood boil. He rushed toward Buck, who backed away from him, his face gradually losing the grin it wore.

"What did you mean by that?" demanded Joe, clinching his fist.

"Aw, what's the matter with you?" growled

Buck. "How did I know he'd knock against you? It was just an accident. Why didn't you get out of the way?"

"Accident nothing," replied Joe. "You're the same sneak that you always were, Buck Looker. You planned that thing when you stopped and talked together. And now something's going to happen to you, and it won't be an accident, either!"

He advanced upon Buck, who hurriedly retreated to the middle of the street and looked about him for a stone.

"You keep away from me, Joe Atwood, or I'll let you have this," he half snarled, half whined, stooping as he spoke and picking up a stone as big as his fist.

"You coward!" snapped Joe, still advancing. "Don't think that's going to save you from a licking."

Just then a sharp warning came from Bob.

"Stop, Joe!" he cried. "Here comes Dr. Dale."

A look of chagrin came into Joe's face and a look of relief into Buck's, as they saw the pastor of the Old First Church turning a corner and coming in their direction. Fighting now was out of the question.

"Lucky for you that he turned up just now," blustered Buck, his old swagger returning as he

felt himself safe. "I was just going to give you the licking of your life."

Joe laughed sarcastically, and before the biting contempt in that laugh Buck flushed uncomfortably.

"Stones seem to be your best friends," said Joe. "I remember how you used them in the snowballs when you smashed that plate-glass window. And I remember too how you tried to fib out of it, but had to pay for the window just the same."

By this time Dr. Dale was within earshot, and Buck and his companions slunk away, while Joe picked up his books and rejoined his comrades.

The doctor's keen eyes had seen that hostilities were threatening but now that they had been averted he had too much tact and good sense to ask any questions.

"How are you, boys?" he greeted them, with the genial smile that made him a general favorite. "Working hard at your studies, I suppose."

"More or less hard," answered Bob. "Though probably not nearly as hard as we ought to," he added.

The doctor's eyes twinkled.

"Very few of us are in danger of dying from overwork, I imagine," he said. "But I've known you chaps to work mighty hard at radio."

"That isn't work!" exclaimed Joe. "That's fun."

"Sure thing," echoed Herb.

"I'll tell the world it is," added Jimmy.

"We can't wait for a chance to get at it," affirmed Bob.

"Seems to be unanimous," laughed the doctor. "I feel the same way myself. I never get tired of it, and I suppose the reason is that something new is turning up all the time. One magical thing treads close on the heels of another so that there's no such thing as monotony. There isn't a week that passes, scarcely a day in fact, that something doesn't spring up that makes you gasp with astonishment. Your mind is kept on the alert all the time, and that's one thing among many others that makes the charm of radio."

"I see that they're using it everywhere in the Government departments," remarked Bob.

"Every single one of them," replied the doctor. "The President himself has had a set installed and uses it constantly. The head of the army talks over it to every fort and garrison and camp in the United States. The Secretary of the Navy communicates by it with every ship and naval station in the Atlantic and Pacific as far away as Honolulu and the Philippines. The Secretary of Agriculture sends out information

broadcast to every farmer in the United States who happens to have a radio receiving set. And so with every other branch of the Government.

"That reminds me," he went on, warming to his subject, as he always did when he got on his favorite theme, "of a talk I had the other day on the train with a man in the Government Air Mail Service. He was a man, too, who knew what he was talking about, for he was the first man to fly the mail successfully both ways between New York and Washington on the initial air mail run.

"He told me that plans are now on foot to fly mail across the continent, daily, both ways, in something like twenty-four hours. Just think of that! From coast to coast in twenty-four hours! That's five times as fast as an express train does it, and a hundred times as fast as the old pioneers with their prairie schooners could do it.

"But in order to do this, a gap of about a thousand miles must be flown at night. And here is where the radio comes in. In order to be able to find his way in the dark, the flier uses his ears instead of his eyes. He wears a radio-telephone helmet that excludes the noise of the motor. A coil of wire is wound on his plane and is connected to a radio receiving set on board. Along his route at stated intervals are transmis-

sion stations whose signals come up to the aviator. When the pilot's direction finder is pointed toward these stations that mark out his path the signals are loudest. The minute he begins to get off his path, either on one side or the other, the signals begin to get weaker.

"Now, you see, all that the pilot has to do is to keep along the line where the signals are loudest. If he goes a little to the right and finds the signals getting weaker, he knows he must shift a little back to the left again until he gets on the loudest sound line. The same process has to be followed if he gets off to the left. You see, it's just as if the plane were running along a trolley line miles below it. Only in this case the trolley line instead of being made of wire is made of sound. That loudest sound line will stretch right across the continent, and all the flier has to do is to run along it. If he does this, he'll get to his destination just as certainly as does the train running along the rails that lead to the station."

"It's wonderful!" exclaimed Bob.

"Sounds like witchcraft," commented Joe.

"You see how easy that makes it for the aviator," resumed the doctor. "It may be as black as Egypt, but that makes no difference to him. He may be shrouded in fog, but that can't bewilder him or shunt him off his course. He can shut his eyes and get along just as well. All he's

got to do is not to go to sleep. And when the dawn breaks he finds himself a thousand miles or so nearer to his destination."

"Suppose he gets to his landing field in the night time or in a heavy fog," said Joe thoughtfully. "How's he going to know where to come down?"

"Radio attends to that too," replied the doctor. "At each landing place there will be a peculiar kind of radio transmission aerial, which transmits vertically in the form of a cone that gains diameter as it goes higher. At a height of about three thousand feet above the field, such a cone will have a diameter of nearly half a mile. In other words this sound cone will be like a horn of plenty with the tip on the ground and its wide opening up in the air. The pilot will sail right into this wide mouth of the horn which he will recognize by its peculiar signal. Then he will spiral down on the inside of the cone, or horn, until he reaches the tip on the ground. This will be right in the middle of the landing field, and there he is safe and sound.

"But here I am at my corner," Dr. Dale concluded. "And perhaps it's just as well, for when I get to talking on radio I never know when to stop."

He said good-by with a wave of his hand

while the four boys looked after him with respect and admiration.

"He's all to the good, isn't he?" said Bob.

"You bet he is!" agreed Joe emphatically. "He's—Hello! what's the matter?"

A sudden commotion was evident up the street. People were running excitedly and shouting in consternation.

The boys broke into a run in the direction followed by the crowd.

"What's happened?" Bob asked, as he came abreast of a panting runner.

"There's been an explosion up at Layton's drug store," the man replied. "They say an ammonia tank burst and everybody up there was killed."

Bob's face grew ashen.

"My father!" he cried, and ran toward the store in an agony of grief and fear.

CHAPTER II

ALMOST A TRAGEDY

WITH his heart beating like a triphammer and his lungs strained almost to bursting, Bob ran on as he had never run before. And yet it seemed to him as though he were terribly slow and that his limbs were dragging as though he were in a nightmare.

Joe, Herb and Jimmy were close behind him as he rushed along, elbowing his way through the throng that grew denser as he neared the building in which his father's store was located. The alarm had spread with almost lightning rapidity, and it seemed as if half the people of the town were on their way to render whatever help might be possible.

In what seemed to be an age, but was in reality less than two minutes, the boys had reached the store. What they saw was not calculated to relieve their fears. Choking fumes of what seemed to be ammonia were pouring out into the streets through the store windows that had been shattered by the explosion. People who had

come within twenty feet of the place were already choking and staggering, and one man who had approached too near had fallen prone on the sidewalk and was being dragged by others out of the danger zone.

Bob plunged headforemost through the crowd and was making for the door when cries of warning rose and many hands grasped him and pulled him back.

"Let me go!" he shouted frantically. "My father is in there! Perhaps he is dying! Let me go!"

But despite his frantic appeals, his captors held him until he unbuttoned his jacket and, wriggling out of it like an eel, again made a dash for the door. The fumes struck him full in the face, and he staggered as under a blow. Before he could recover and make another attempt, strong arms were around him and this time held him fast.

"No use, Bob, my boy," said the firm but kindly voice of Mr. Talley, a warm friend both of Bob and his father. "It's simply suicide to go in there until the fumes thin out some. Here comes the fire engine now. The firemen have smoke helmets that will protect them against the fumes, and if your father is in there, they'll have him out quickly."

Up the street, with a great clangor of bells,

came tearing the engine. The crowd made way for it, while the firemen leaped from the running board before it came to a stop.

"I've got to do something!" gasped Bob. "Let me go!"

"No use, my boy," said Mr. Talley.

Just then Joe had an inspiration.

"Bob," he shouted, "there's that passageway from the old factory that leads right to the back of the store. Perhaps we can get in from that. What do you say?"

In a flash, Bob remembered. He tore himself loose from Mr. Talley's grasp and was off after Joe, running like a deer.

And while the boys are frantically seizing this chance of rescue, it may be well for the benefit of those who have not read the preceding volumes of this series to tell briefly who the Radio Boys were and what had been their adventures up to the time this story opens.

Bob Layton, who at this time was about sixteen years old, had been born and brought up in Clintonia, a wideawake, thriving town with a population of over ten thousand. It was pleasantly located on a little stream called the Shagary River, less than a hundred miles from New York City. Bob's father was a leading citizen of the town and a prosperous druggist and chemist. No one in the town was more highly respected,

and although not rich, he had achieved a comfortable competence.

Bob was a general favorite with the people of the town because of his sunny temperament and his straightforward, manly character. He was tall, sinewy, of dark complexion and a leader among the young fellows of his own age in all athletic sports, especially in baseball and football. On the school nine and eleven he was a pillar of strength, cool, resourceful and determined. His courage was often tested and never failed to meet the test. He never looked for trouble, but never dodged it when it came.

His closest friend was Joe Atwood, whose father was a prominent physician of Clintonia. Joe was of fair complexion, with merry blue eyes that were usually full of laughter. They could flash ominously on occasion, however, for Joe's temper was of the hair-trigger variety and sometimes got him into trouble. He seldom needed a spur, but more than once a brake was applied by Bob, who had much more coolness and self-control. The pair got on excellently together and were almost inseparable.

Closely allied to this pair of friends were two other boys, slightly younger but near enough to their ages to make congenial comrades. One of these was Herb Fennington, whose father kept the largest general store in town. Herb was a

jolly likeable young fellow, none too fond of hard work, but full of jokes and conundrums that he was always ready to spring on the slightest encouragement and often without any encouragement at all.

The fourth member of the group was Jimmy Plummer, whose father was a carpenter and contractor. Nature never intended Jimmy for an athlete, for he was chunky and fat and especially fond of the good things of life; so much so in fact that he went by the nickname of "Doughnuts" because of his liking for that delectable product. He was rollicking and good-natured, and the other boys were strongly attached to him.

They would have been warm friends under any circumstances, but they were drawn still more closely together because of their common interest in the science of radio. The enthusiasm that swept the country when the marvels of the new science became known caught them in its grip and made them the most ardent of radio "fans." They absorbed anything they could hear or read on the subject, and almost all their spare time was spent in delving into the mysteries of this miracle of modern days.

While the Radio Boys, as they soon began to be called, were popular with and friendly to almost all the other Clintonia boys, there was one group in the town with whom they were almost con-

stantly at odds. Buck Looker and two of his cronies, Carl Lutz and Terry Mooney, were the special enemies of the Radio Boys and never lost an opportunity, if it were possible to bring it about, of doing them mischief in a mean and underhand way.

Buck's father was one of the richest men in the town, and this enabled Buck to lord it over Lutz, slightly younger than he, and Mooney, younger yet, both of them sneaks and trouble-makers, who cringed to Buck because of his father's wealth.

The boys might not have made such rapid progress with their radio had it not been for the help and inspiration given them by Dr. Dale, the pastor of the Old First Church, who was himself keenly interested and very proficient in the science. He understood boys, liked them and was always ready to help them out when they were perplexed in any phase of their sending or receiving. They in turn liked him thoroughly, a liking that was increased by their knowledge that he had been a star athlete in his college days.

Another thing that stimulated their interest in radio was the offer of prizes by Mr. Ferberton, the member of Congress for their district, for the best radio sets turned out by the boys themselves. Herb was a bit lazy and kept out of the contest,

but Bob, Joe and Jimmy entered into the competition with zest.

An unexpected happening just about this time led the boys into a whole train of adventures. A visitor in town, a Miss Nellie Berwick, lost control of the automobile she was driving and the machine dashed through the windows of a store. A fire ensued and the girl might have lost her life had it not been for the courage of the Radio Boys who rescued her from her shattered car.

How the boys learned of the orphan girl's story; how by the use of the radio they got on the track of the fellow who had defrauded her, how Buck Looker and his gang attempted to ruin their chances in the radio competition, can be read in the first volume of this series, entitled: "The Radio Boys' First Wireless; Or, Winning the Ferberton Prize."

Summer had come by that time and the Radio Boys went with their parents to a little bungalow colony on the seashore. They carried their radio sets with them, though they had no inkling of what an important and thrilling part those sets were to play. What advances they made in the practical knowledge of the science; how in a terrible storm they were able to send out radio messages that brought help to the steamer on which their own people were voyaging; all these adven-

tures are told in the second book of the series, entitled: "The Radio Boys at Ocean Point; Or, the Message that Saved the Ship."

Several weeks still remained of the vacation season, and the boys had an opportunity of saving the occupants of a rowboat that had been heartlessly run down by thieves in a stolen motor-boat. Two of the rescued people were Larry Bartlett and a friend who were vaudeville actors, between whom and the boys a warm friendship sprang up. How they exonerated Larry from a false charge of theft brought by Buck Looker; how when an accident crippled Larry they obtained for him a chance to use his talents in a broadcasting station; how this led eventually to themselves being placed on the program can be seen in the third volume of the series, entitled: "The Radio Boys at the Sending Station; Or, Making Good in the Wireless Room."

The boys reluctantly bade farewell to the beach and returned to Clintonia for the fall term of high school. But their studies had not continued for many weeks before an epidemic in the town made it necessary to close the school for a time. This proved a blessing in disguise, for it gave the Radio Boys an opportunity to make a visit to Mountain Pass, a popular resort in the hills. Here they made the acquaintance of a Wall Street man to whom they were able to render a great

service by thwarting a gang of plotters who were working for his undoing. By the use of radio they were able to summon help and save a life when all the passes were blocked with snow. They trapped Buck Looker and his gang in a clever way just when it seemed that the latter's plots were going through, and had a host of other adventures, all narrated in the fourth volume of the series, entitled: "The Radio Boys at Mountain Pass; Or, the Midnight Call for Assistance."

Shortly after the boys had returned to Clintonia, they were startled to learn that the criminal Dan Cassey, with two other desperate characters, had escaped from jail. A series of mysterious messages over the radio put them on the trail of the convicts. How well the boys played their part in this thrilling and dangerous work is told in the fifth volume of the series, entitled: "The Radio Boys Trailing a Voice: Or, Solving a Wireless Mystery."

And now to return to Bob and Joe, as, panting with their exertions and followed by their comrades, they rushed toward the old factory from which they hoped to reach the rear of Mr. Layton's store.

The place had formerly been used by a chemical concern with which Mr. Layton was connected in an advisory capacity. He was skilled in his

profession and his services had been highly appreciated. An amalgamation of several similar concerns had now been effected, and for purposes of economy the headquarters of the company had been removed to another city and the old factory had been abandoned.

While it had been in operation it had been connected with the rear of Mr. Layton's store by an underground tunnel that was just large enough to permit easy access from one place to the other. A large door closed it at the factory end, while at the rear of the store a flight of steps led up to a large, square trapdoor set in the floor.

Bob's mind was in a tumult of emotions as he ran along. It was a long time since he had been in the factory, and in the confusion of his thoughts he could not remember whether the great door was locked or not. And even if he succeeded in gaining access there, the possibility remained that the trapdoor at the other end might prove to be bolted. In either case, it would be impossible to get into the store until it was too late to be of any use. And at this very moment his father might be gasping out his life in those terrible fumes!

He reached the factory, flung himself through the open outer door and made for the door leading into the passageway. He pulled frantically at

the knob, but it resisted his efforts. Was it locked, after all? The answer was supplied the next moment when Joe added his strength to Bob's, and yielding to their united efforts the heavy door, groaning and creaking on its rusted hinges, swung outward. Jimmy and Herb had been outdistanced and were nowhere to be seen.

With an inward prayer of gratitude Bob plunged into the dusty passage that had been unused for years. Fortunately it ran in a straight line, and although he had no light he had little difficulty in finding his way, despite the fact that he abraded his hands and shins against the sides, owing to the rate at which he was going. But in his excitement the youth did not even feel the bruises.

In a moment he had reached the foot of the steps, bounded up them and was pushing with all his might at the trapdoor at the head. It yielded under his efforts enough to show that it was not bolted. For a moment though, it seemed as though it might as well have been, for some heavy object or objects lying on it defied his strength. By this time Joe was at his side, and together they strained at the door, while the veins stood out in ridges along their arms and shoulders. Had they not been strung up to such a pitch, they could never have succeeded, but sheer desperation gave them strength far beyond the

normal, and gradually they forced the trap upward and rolled over to one side what had been holding it down.

In a twinkling both the boys were up in the store. The fumes had thinned out somewhat, but were still thick enough to make them gasp and choke. Whatever they had to do must be done quickly.

CHAPTER III

QUICK WORK

THE room into which the boys had leaped was a small laboratory fitted up in the rear of the store. As Bob's eyes ranged about, they fell on two bodies lying at the side of the trapdoor. These were what had been holding the trapdoor down. A glance sufficed to show Bob that one was the body of his father and the other that of Thompson, one of the clerks of the store.

In a moment Bob was on his knees at his father's side.

"Dad!" he cried. "Dad! Are you alive? Speak to me!"

But no answer came from the motionless lips.

Bob put his hand on his father's heart. It was still beating, though slowly and fitfully.

"Quick, Joe," shouted Bob. "Help me get him out of this."

Joe responded instantly, but at this moment the firemen, who had been groping about in the blinding fumes, stumbled into the room. Willing

hands grasped the bodies of Mr. Layton and the clerk and carried them out to the sidewalk. Here a cordon was quickly formed to keep the crowd back.

The telephone had been busy while these events were happening, and all the physicians in the town had been summoned. Oxygen tanks and pulmotors had also been requisitioned from the hospital and the ambulance containing them arrived just as the rescues were being effected. Dr. Atwood, Joe's father, and Dr. Ellis were already on the scene, and the former took charge of Mr. Layton, while Dr. Ellis devoted himself to the clerk.

Then followed moments full of heartbreaks for Bob, while he waited for the doctor's verdict. Both the physicians worked with skill and quickness, but it was some time before their efforts were rewarded.

Joe placed his arm affectionately about his friend's shoulder, while Herb and Jimmy also added words of encouragement. Bob tried to be brave, but his heart was rent with anguish while he waited for the words that would mean life or death.

Finally, after what seemed an age, Dr. Atwood rose to his feet with relief and satisfaction in his eyes.

"He will live," he said, and with the words

Bob felt as though the weight of a thousand tons had been lifted from his heart. "For a while it was a case of touch or go, but you got him out just in time. Two minutes more and it would have been too late. All he needs now is rest and good nursing, and he'll be as well as ever in a couple of weeks."

At the same moment Mr. Layton opened his eyes and looked around. His gaze was vague and uncertain at first, but as his eyes fell upon Bob they lighted up with a smile of recognition, and he tried to reach out his hand to him. But he was too weak, and the hand fell helplessly at his side. In a moment Bob was kneeling beside him and patting his hand.

"Dad, Dad," he cried. "Thank God!" And then because his heart was too full he could say no more.

Dr. Ellis also announced that Thompson was out of danger, and the patients were lifted into the ambulance and conveyed to their respective homes.

The week that followed was a trying one for Bob and his mother. The latter was assiduous at the bedside of her husband, who, although steadily recovering, mended slowly. Bob, apart from his anxiety over his father's condition, found a great deal of responsibility placed on his shoulders. The store had to be repaired and put

in order for carrying on the business. Insurance also had to be attended to, and a host of other details forced themselves upon his attention. Fortunately the head clerk, a Mr. Trent, who had been absent at the time of the accident, was an expert pharmacist and a good manager; so that, after the first few days, business had been resumed and was going on as usual. Still, Bob was heavily taxed with matters that were comparatively new to him. He rose to the occasion, however, in a way that made his father proud of him.

"You're my right hand, Bob," his father said to him one day, as he sat by his bedside. "I don't know what I'd do without you. You've carried on affairs as though you were an old hand at the business. It's too bad that all this had to be shoved on you so suddenly, but you've stood the test nobly."

"Oh, that's nothing," replied Bob, making light of the matter, though his father's praise was sweet to him. "All you've got to do is to get well and nothing else matters."

"I've been trying to figure out how the thing happened," mused his father, "but to save my life I can't understand it. All I was conscious of was a terrific noise and a shock as though I had been hit on the head by a triphammer. Then everything went black and I knew nothing more

until I saw you standing beside me on the sidewalk."

"Don't excite yourself by trying to remember," replied Bob soothingly. "The important thing is that you're alive. All the rest is nothing."

Bob's chums had also felt an anxiety only second to his own. They were full of sympathy and showed it by doing everything they could to help him and lighten the load that he was carrying. All the spare time they had they spent with him at his home or at the store. The calamity had served to cement the ties that bound the friends together.

By the time a week had passed, matters took an upward turn. Mr. Layton began to progress rapidly, and Dr. Atwood prophesied that in a few days he could begin to attend to business, although at first he could devote only a few hours a day to it, lengthening the time as his strength came back. Affairs in the Layton household resumed their normal course and Bob had time to catch up with his studies that had been temporarily neglected and devote himself once more to his beloved radio.

His interest in the latter was further heightened by the receipt of a letter that came one morning to his father, and whose contents Bob proceeded at once to share with his comrades.

"That talk by Mr. Bentley over the radio is

fixed for to-morrow night, fellows," he told them eagerly, as they started off for school. "Don't make any other engagement and be sure to be on hand. Suppose you come round to my house to listen in. I've been tinkering on my set this last day or two, and I've got it tuned to the queen's taste. And if it's as cool to-morrow as it is to-day, old static won't be butting in to any extent."

"Let's hope not," replied Joe. "I don't want to miss a single word."

"Same here," echoed Herb. "That Bentley has something to say and he sure knows how to say it."

"It's always worth while listening when a he-man talks," commented Jimmy, whose imagination had been captured by the breezy personality of the bronzed forest ranger.

CHAPTER IV

RADIO THE FIRE-CONQUEROR

PROMPTLY at eight o'clock on the following night the Radio Boys gathered at Bob's house to listen to Mr. Bentley's talk over the radio on radio and forest fires. Even Jimmy, who as a rule lingered long at the supper table and could usually be depended on to be at the tail end of any procession, had made an exception on this occasion, and appeared before the clock struck, although slightly out of breath.

"You're puffing like a grampus," remarked Herb, as he surveyed his rotund friend critically.

"I don't know what a grampus is," returned Jimmy; "but I wouldn't blame him for puffing if he'd hurried through his supper the way I did. Had some fresh doughnuts, too, for dessert, but I cut short on them."

"Cut short!" snorted Herb, in frank disbelief. "How many did you eat?"

"Only seven," returned Jimmy, unabashed. "I'm usually good for ten."

"What's making your pockets bulge so?" asked Joe suspiciously.

"Those are the other three doughnuts," explained Jimmy placidly, as he took one out and began to munch on it. "I've got to keep up my strength, you know."

"Well, here's where you grow weaker," declared Joe, as he made a dive for Jimmy's pocket and snatched out one of the remaining doughnuts and began to devour it.

Jimmy made a wild dive for it, which gave Herb a chance to pull the last one from his pocket, a chance of which he availed himself with neatness and dispatch.

They dodged about the room while Jimmy tried in vain to regain his treasures, which, however, soon vanished to the last crumb.

"This joint ought to be pinched," Jimmy said, in pronounced disgust, when all hope had gone. "I didn't think that I was coming into a nest of crooks."

"Never mind, Jimmy," Bob laughed. "There's a delicious apple pie in the pantry that mother has laid aside for us, and I'll see that your slice is twice as big as those of these two highbinders."

Jimmy brightened up visibly at this, and further hostilities were averted.

In deference to Mr. Layton's condition, the loud speaker was not used that night, and the

boys adjusted their respective earphones and prepared to listen in to the entertainment furnished by WJZ, the signal letters of the Newark broadcasting station.

Mr. Bentley's talk was scheduled on the program to take place at nine, and the boys were so impatient for this to begin that they did not pay as much attention as usual to the other features that preceded it. Not but what they were well worth listening to. There was a glorious violin solo played by a celebrated master, the rich notes rising and falling in wonderful bursts of melody. Then there was a talk by a star third baseman of national reputation, telling how he played the "difficult corner" and narrating some ludicrous happenings in the great game. Following this was a jazz rendition of the "Old Alabama Moon," and then came one of Sousa's band pieces that set feet to jigging in time with the music. WJZ was surely putting on a most interesting program.

At last came the announcement for which the Radio Boys were waiting, and they straightened up in an attitude of intent listening.

"Mr. Payne Bentley, of the United States Forest Service," stated the announcer, "will tell us of the work done by radio in the prevention and extinction of fires in the national forests. Mr. Bentley has spent many years in this important

and hazardous work, both as aviator and radio operator, and speaks with authority."

There was a moment's pause, and then came the clear strong voice that the boys had been waiting for and which they recognized at once.

"There's the old boy, sure enough," murmured Jimmy delightedly.

"S-sh," came from the others, as they settled down to listen.

"I am not a practiced orator," Mr. Bentley began after the customary salutation to his invisible audience, "and if my talk shall prove of any interest to you, it will be due not to the way in which I express myself but to the importance of my subject."

After this modest opening he plunged into his theme, and for a space of perhaps twenty minutes presented an array of facts and incidents that riveted the closest attention of his great audience. At least, that was the way it affected the Radio Boys, and they had no doubt that thousands of others were listening with the same fascinated interest. Nor was this due simply to the personal attraction the speaker had for the boys. Had they not known him at all, the subject matter of his talk would have been sufficient to hold them enchained.

With a few broad strokes the speaker sketched

the awakening of the national Government to the value of its forest riches and the necessity of conserving them. Uncle Sam, he said, had been in the position of a prodigal father, so rich that he believed his wealth would never be used up, therefore perfectly willing that his sons should scatter it broadcast. Why worry, when there were millions and millions of acres teeming with trees that could scarcely be numbered? So he had shut his eyes to the denuding of the forests.

But suddenly he had awakened with a shock. For he had realized after all that his wealth was not limitless. Great tracts had been stripped of their trees to such an extent that the watercourses in their vicinity had dried up or greatly diminished in volume. After the great trunks had been borne away, tons of branches had been left to dry until they became like tinder needing only a spark to fan them into a holocaust of flame that swept over thousands of acres, leaving only blasted and charred skeletons of what had been living trees. Hundreds of millions of dollars' worth of valuable timber had literally vanished in smoke.

Fortunately the Government had not aroused itself too late. It was not a case of locking the stable door after all the horses had been stolen. There was still enough left, with careful husbanding, to provide against national disaster. But the waste must stop right here. Reforesting

must keep pace with deforesting. For every tree taken away, another must be grown to take its place. And above all, the fires that had been taking such fearful toll of our forest wealth must be prevented as far as possible. And where prevention was unavailing, the best and most improved methods of getting the fires under control and extinguishing them must be adopted and applied.

So the United States Forestry Service had come into being, and the fire loss had been immeasurably reduced. Stations had been established in great tracts of woodland from the Atlantic to the Pacific. Men with special qualities had been picked for the hard and dangerous work of forest rangers. They were the policemen of the woods, authorized to take action against many grades of human malefactors, but cautioned to be on their guard especially against the great arch-demon—Fire!

In the woods as in the cities, the speaker pointed out, time is the greatest element in the curbing of fire. That is why the great engines go thundering down city streets at such tremendous speed. The loss of one minute of time may mean the loss of millions of dollars. Time to a city fireman is measured not in minutes but in seconds, and sometimes even in tenths of a second.

The same thing was true in forest fires. The alarm must be given instantly. It must be flashed to scores of villages and settlements lying in the threatened area. It must call hordes of settlers and woodmen to join in the work of getting the fire under control. How could this most effectively be done? The answer was in one word. Radio!

For Uncle Sam had come to realize that in this wonderful agency he had found the solution of his problem. He had tried many others. There had been lofty stations that had wig-wagged signals from one height to another, but this method had only a limited range and was ineffective under conditions of cloud and fog and darkness. Telegraph and telephone lines had been strung through the woods between stations, but in many cases the trees to which they had been strung and the wires themselves had been burned in the very fire that the operators had been trying to control.

But radio had none of these handicaps. It could work by night as well as by day. There were no wires to be melted. It worked in the valleys as easily as in the hills. The tiniest glint of fire, the smallest thread of smoke—and instantly the message was flung out into the ether, reaching every camp, every settlement, every party in the woods who carried their radio re-

ceiving sets with them, telling them just where the fire was starting and summoning them to help.

And it did more than that. As soon as the fire was located, aviators whose planes were equipped with radio hovered above the line of flame and gave directions by wireless to the workers below. Those on the ground, blistered and blinded by the flame and smoke against which they were waging war, could not see where the fire was spreading nor the best means to combat it. But the aviator from his lofty perch surveyed the whole scene, could call the fire-fighters to the point where they were most needed, could point out the place where ditches should be cut or backfires started, and in general direct the whole campaign.

It was not to be supposed, the speaker said, that the value of radio for this purpose was instantaneously recognized. Large bodies move slowly, and the national Government was very conservative and, like the man from Missouri, wanted to be "shown." Objections were raised that the cost of carrying and setting up the radio apparatus in the wilderness would be prohibitive. But there were men of vision who knew better, and they kept pounding away until their plans were put into execution. In the end the advocates of radio won. And what that wonderful radio has saved to the United States

Government has run up already into the hundreds of millions.

Many incidents, some amusing, others thrilling, connected with the Forest Service were narrated by the speaker, who then finished his remarks in this fashion:

"Before I close, let me say that if the Radio Boys of Clintonia are listening in, I am sending my regards and will soon call upon them again."

CHAPTER V

THE WONDERFUL SCIENCE

THE effect of this closing sentence on the Radio Boys was electric. They had been engrossed in the subject of the talk, and the personal twist that came at the end took them utterly by surprise. Bob jumped as though he had been shot, and Jimmy nearly fell off his chair.

"Well! what do you think of that?" exclaimed Joe, as soon as he got his breath.

"Wasn't that dandy of the old scout?" sputtered Herb, not yet recovered from his surprise.

"Talking to hundreds of thousands and yet taking time to send a special message to us!" remarked Bob, with deep gratification.

"Radio Boys of Clintonia!" chuckled Jimmy. "Guess we're some pumpkins, say, what?"

"How I wish we could answer back and tell him what we thought of his address," observed Joe regretfully.

"You'll have a chance to do that when you see him face to face," Bob reminded him. "You remember that he said he'd call on us soon."

"Can't be too soon to suit me," declared Herb emphatically.

"And that's the man who began by saying that he wasn't a practiced orator!" commented Bob. "Gee, I think it was one of the most eloquent things I ever heard. I wouldn't have missed a word of it. I'll bet that if he'd have delivered that in a crowded hall his hearers would have raised the roof."

"He's there with the goods all right," agreed Joe. "And did you notice how modest he was? Not a word about his own personal adventures, but boosting the other fellows to beat the band. I tell you, that fellow's a real man."

"We were in luck when we got acquainted with him," declared Bob. "And by the way, fellows, did you ever stop to think how many fine fellows we've met in the radio line? There's Frank Brandon and Brandon Harvey and Payne Bentley, all of them princes."

"Not to mention Doctor Dale," put in Herb. "Of course we knew him before, but we never got real close to him until we took up this radio work."

"What a treat it would be to get those four together and get them started talking about radio!" ejaculated Joe. "Maybe we wouldn't learn something!"

"You said it," affirmed Jimmy. "I wouldn't

want to say a word but just sit still and listen."

There were still other numbers on the program of WJZ, but the boys were so absorbed in Mr. Bentley and his talk that they did not care for anything else that night. They sat talking it over until Joe, looking at his watch, was startled to find that it was nearly midnight.

"Guess we'd better be making tracks," he said, reaching for his cap.

Jimmy was the only one of the visitors who did not follow his example.

"Glued to the chair?" inquired Herb flippantly. "Going to make Bob twice glad by staying all night?"

"I was thinking," said Jimmy dreamily, "of a little word that I heard earlier in the evening. A very little word it was, but it means a lot in my young life. Only three letters. Let me see! P-i-e. Yes, that's it. Pie. I knew I'd be able to recall it."

"That's a safe bet," said Joe. "If you remembered your lessons half as well, you'd stand higher in your classes."

Bob, recalled to his duties as host, hurried to the pantry, whence he returned bearing one of the apple pies for which Mrs. Layton was famous.

"Do you think you'd better eat anything so late at night, Jimmy?" asked Herb, with mock solicitude.

"I don't think—I know," returned Jimmy, with emphasis. "It may kill me, but at least I'll die happy. But I don't believe it will kill me. Do you remember what I did in that pie-eating contest up in the woods? Don't forget that I'm a champion."

Bob started to cut the pie into four equal pieces, when Jimmy intervened.

"Remember your promise, Bob," he said. "I was to have twice as much as these crooks who robbed me of my doughnuts. Cut it into five pieces and give me two of them."

"Your figuring is rotten, Jimmy," declared Joe. "That would give you twice as much as either Herb or me, and so far it's all right. But it would also give you twice as much as Bob, and that wasn't in the bargain. He didn't swipe one of your doughnuts."

Jimmy looked perplexed. He was not especially strong in mathematics.

"That's so," he admitted. "Suppose then we cut it into six pieces. That will be two for Bob, two for me and one apiece for you crooks."

"There again you're wrong," persisted the implacable Joe. "It's all right for you to have double what we have, but where does Bob come in to have two to our one? We didn't rob him of a doughnut."

Now poor Jimmy was puzzled indeed. It was

clear to him that if the pie were cut in five pieces, of which he had two, he would have an unfair advantage over Bob. There was no reason why he should have twice what Bob had. On the other hand if it were cut in six pieces, of which Bob had two, Bob for no reason whatever would have twice as much as Herb or Joe. How could the pie be cut so that Bob would have his fair share and no more and yet Jimmy have twice as much as either Herb or Joe? Into exactly how many equal pieces must it be divided so that justice might be done?

Perhaps some of our young readers might be puzzled to answer the question. Jimmy certainly was. So much so in fact that he made a virtue of necessity and decided to be generous.

"Oh, all right," he said with a magnificent gesture. "Cut it into four equal pieces and let it go at that. I'll get even with you fellows some other way."

"How sweet of you," replied Joe, grinning, hastening to grab his quarter before Jimmy should repent of his offer. "Only I'm not sure whether this is softness of heart or softness of brain. You'd never have done it if you hadn't got mixed up in your figuring."

Jimmy tried to think of some crushing retort, but by that time he had started to eat the pie, and he put his whole attention so thoroughly on

the work that less important things were forgotten.

The next afternoon, as Bob was going down to his father's store, he ran across Dr. Dale. After the doctor had made inquiries as to how Mr. Layton was progressing, Bob asked him:

"By the way, Doctor, were you listening in at WJZ last night?"

"No, I wasn't," replied the doctor. "Was there anything that was especially interesting?"

"We found it so," responded Bob, and then proceeded to give an outline of the talk of the forest ranger.

"It must have been fine," Dr. Dale commented when Bob had concluded. "I have a personal interest in forestry work for reasons that I will tell you about when I have more time. I'm glad to hear that Mr. Bentley is going to visit you, and I would like to come round and get acquainted with him."

"I'll tell you when he comes," promised Bob.

"One reason that I missed his talk last night," the doctor went on, "was that for the greater part of the evening I was listening in at WGY. Those, you remember, are the call letters of the Schenectady station. They've got a wonderful new contrivance there that's going to make a sensation in the radio world when it becomes generally known."

"One more miracle to be put down to the account of radio, I suppose," replied Bob, with an appreciative smile.

"You might almost call it that," replied the doctor. "Some weeks ago WGY told its audience that a new device different from the phonograph was being used to talk into the radio transmitter. But at the time they didn't give any explanation of what the contrivance was. I suppose they wanted to test it out under all conditions before they let the public in on it. But last night they told us all about it. It's a film that does the talking."

"A film!" exclaimed Bob, in surprise.

"That's just what it is," affirmed Dr. Dale. "They showed it to Edison when he was up there the other day, and he was astonished. And anything that astonishes that wizard must be pretty good."

"I should say so!" acquiesced Bob. "Please tell me just what it is and how it works."

"It's something like this," replied the doctor. "I'll try to give it you as nearly as I can in the very words that were used in explaining it. The purpose of the device is to record sounds on a photographic film so that the sound may later on be exactly reproduced in ordinary telephones and loud speakers. The record is made by causing the sound waves to produce vibrations on a

very delicate mirror. A beam of light reflected by this mirror strikes a photographic film which is constantly in motion.

"When the film is developed it shows a band of white with faint markings on the edges which correspond to the sound which has been reproduced. On account of the exceedingly small size of the mirror, it has been found possible to produce a sound record which includes the delicate overtones which give quality to speech and musical sounds. Do you get my meaning?"

"I can understand how the film is made," responded Bob thoughtfully. "But after it is made, how is the sound reproduced?"

"I was coming to that," replied the doctor. "The reproduction of the sound from the film is brought about by moving the film in front of an exceedingly delicate electrical device which produces an electromotive force that varies with the amount of light that falls upon it. By an ingenious combination of vacuum tubes, there has been produced an apparatus which responds to variations in the light falling on it with the speed of light itself or with the speed of propagation of wireless waves into space. Therefore, when this film is moved continuously in front of such a device, the device produces an electric current which corresponds very accurately to the original sound

wave. This electric current may be used to actuate a telephone or loud speaker.

"When this was told to us last night, I thought that it was the announcer who was talking. But, as a matter of fact, it was the film that was talking. The voice of the announcer had first been recorded on the film and then was sent out with such accuracy that we were all fooled into believing that the announcer himself was speaking to us at first hand."

"That certainly showed how good it was!" exclaimed Bob. "It's nothing less than magic! It sometimes seems as though it couldn't be real—as if radio must be a dream."

"A dream that has come true," answered the doctor, as he smilingly said good-by and went on his way.

CHAPTER VI

THRASHING A BULLY

THE next morning Bob was on his way to school when on passing the Sterling House, the most prominent hotel in town, he caught sight of the figure of a girl on the porch that looked somewhat familiar to him. He looked again and recognized Nellie Berwick, the orphan girl to whom he and the rest of the Radio Boys had rendered such valuable service when her automobile had run wild and dashed through the window of a store.

At the same moment her eyes fell upon Bob and her face lighted up with pleasure. She waved her hand in greeting, and in a moment Bob had run up the steps and was taking her outstretched hand.

"I'm so glad to see you," she said, and there was evident sincerity in her voice. "I was just thinking of you before you came in sight."

"It's pleasant to be remembered," replied Bob.

"I have good cause for remembering," she said, pointing across the street. "There's the very place

where I came so near to losing my life, and probably would have lost it if it hadn't been for you."

"I simply had the good luck to be on hand at the time," replied Bob. "Anyone else would have done as much. But what is it that brings you to Clintonia? Are you going to stay for some time?"

"No," she responded, "I expect to go back home this afternoon. I came to Clintonia to see your Doctor Dale, the pastor of the Old First Church. You know him, I suppose."

"Know him!" replied Bob. "I should say I do. He's one of the finest men that ever lived. It was only yesterday that I had a long talk with him. If I had time this morning, I'd take you up and introduce you to him."

"Thank you just as much," Miss Berwick answered. "I'm going to see him about the services in his church that are carried to other churches by radio. The little church in our town isn't large enough to support a pastor and I've heard of so many little churches that are supplied by him that I thought we might make similar arrangements. I wanted to learn from him just what kind of receiving sets are best for the purpose and just how one can be installed."

"He'll be glad to give you any information that you want," Bob assured her. "He's doing great work by radio, and by this time there must

be thousands who listen to him every Sunday. He'll be only too pleased to have your church added to the list. And say," he added, "when you've picked out your set, some of the other fellows and I will come over and rig it up."

"That's awfully good of you," she said gratefully. "We'll certainly need some help of that kind, for I don't know any of our own people that are experts at radio."

"We don't call ourselves experts," disclaimed Bob. "But I'm sure we can set your apparatus up so that you'll have no trouble in receiving."

"By the way," remarked Miss Berwick, "you remember Dan Cassey?"

"Will I ever forget him?" replied Bob, and before him rose that night of storm and darkness when he had been engaged in a life-and-death struggle with the scoundrel.

"I saw him the other day," went on Miss Berwick.

"What!" cried Bob, with a start. "You don't mean that the rascal has escaped again?"

"Oh, no," returned the girl. "I saw him in prison."

"Oh!" said Bob, in great relief. "That's better. That's where the villain belongs. But how on earth did you happen to see him?"

"It was quite accidental," was the reply. "I went with a friend of mine who is acquainted

with the wife of the prison warden. A radio concert was to be given for the benefit of the prisoners and the warden's wife had invited her to attend and bring any friend she liked with her. I didn't have Cassey in mind—didn't know, in fact, that he was in that special prison. You can imagine then how startled I was when in looking over the rows of prisoners in the prison chapel where the concert was given I recognized Cassey. He looked up and saw me too, and I never saw such a black and wicked look on any man's face as came into his. He looked as though he would like to tear me to pieces."

"No doubt he would if he had the chance," replied Bob. "I imagine I wouldn't fare very well either if he could get a hack at me. He's bad medicine, through and through. Had you heard that he escaped once?"

"No," replied Miss Berwick, in surprise. "Tell me about it."

In response, Bob narrated the incident of Cassey's escape and how he and the other Radio Boys had been instrumental in his capture.

"So you see," he concluded, with a laugh, "Cassey must think I'm his hoodoo. I'd have a mighty slim chance if he ever had me helpless in his hands."

But here, Bob, glancing at his watch, saw that he had barely time to reach the high school be-

fore the bell rang, and with cordial farewells they parted.

As the hours wore on the day grew unbearably hot, unseasonably so, since it was only the month of May. The day seemed excessively long, the lessons dragged, and into the minds of the boys came thoughts of cool green waters and ocean breezes.

"Oh, for Ocean Point once more!" ejaculated Joe, as at the close of the school day he wiped the perspiration from his forehead. "Say, fellows, how would it be just now to slip on our bathing suits, run down to the surf and plunge into the breakers? Oh, me, oh, my!"

"What's the use of tantalizing a fellow?" grumbled Herb. "It'll be at least a month or six weeks before we can get to the beach."

"Let's hope this weather doesn't keep up," remarked Bob. "But what's the use of waiting for Ocean Point? If we can't get the whole loaf, let's take a slice. What do you say to taking a dip in the swimming hole down on the old Shagary? It'll cool us off anyway, and that's something on a day like this."

"Just what the doctor ordered," declared Jimmy, and his comrades murmured their approval.

It was the work of only a few minutes to reach

their homes, leave their books, get their swimming trunks and towels and make for the banks of the Shagary. It was only a small stream, but the water was clear and in several places deep enough to afford excellent sport. There was one spot especially that was in high favor with the boys, because there the stream widened out so that there was some fun in racing from bank to bank. It bore the designation of the "swimming hole," and it was there that the boys proceeded.

A hundred yards away, Bob started on a sprint.

"The last one in is a Chinaman," he cried.

All sought to avoid having that name tacked on to him, and Herb and Joe gave Bob a genuine race, arriving with him at the river bank almost neck and neck. Jimmy was handicapped by his weight and shorter legs, and by the time he got there they had already removed some of their clothes.

"I ought to have had a twenty-yard start," he grumbled, as he fumbled with his buttons.

In his haste, he had taken up a position too close to the edge of the bank, and as he stood on one leg while he lifted up the other to remove the leg of his trousers, he got slightly off his balance. He staggered a moment in trying to regain it, but it was no use. Over he went head first

into the river, the yell of consternation that he emitted being suddenly cut short as he struck the water.

Bob, who was standing nearest him, had seen him stagger and had reached out his hand to catch him. But he had only grazed his sleeve and had all he could do to escape toppling into the water himself.

Up came Jimmy, gasping and spluttering, for as his mouth had been open when he struck the water he had swallowed a lot of it. His hair was plastered over his head, and there was a comical look of surprise and chagrin on his round face.

As he reached the bank and waded out, one leg of his trousers still clinging about him and the other trailing behind him, he presented such a ludicrous appearance that the boys fairly doubled up with laughter.

Jimmy glared at them indignantly, but this only made them laugh the more.

"That's right, you laughing hyenas!" snorted Jimmy. "Go right ahead and cackle."

"You're getting your figures mixed, Jimmy," chuckled Herb. "Hyenas don't cackle. You're thinking of hens."

"I know I made a mistake," admitted Jimmy. "I ought to have spoken of the braying of jackasses."

"Never mind, Jimmy," consoled Bob. "You're

not a Chinaman anyway. You weren't the last one in."

This seemed to bring but scant comfort to Jimmy, but he soon had plenty to occupy his mind in squeezing out his dripping clothes and spreading them in the sun to dry.

Whatever irritation he felt, however, was soon dissipated when he joined his companions, who were sporting about in the cool water. It was their first swim of the season and they enjoyed it beyond measure, diving, swimming, floating and racing until a look at the western sun told them that it was time to think about getting home.

By this time, Jimmy's clothes were fairly dry, although they stood sadly in need of pressing. They all dressed quickly and started for the town.

Their road led for part of the way along the river bank, and they had proceeded perhaps an eighth of a mile when they heard cries of protest coming from the river mingled with mocking laughter.

At this point the road curved a little and was bordered with bushes. Joe peered through the bushes and then beckoned to his companions.

"It's Buck Looker and his gang up to one of their usual tricks," he whispered.

They looked and saw Buck, with Carl Lutz and Terry Mooney, sitting on the grass a little way

from the river. They were laughing boisterously, as though at some huge joke.

At their feet were two suits of clothes, and in the river with the water up to their waists were standing two boys who seemed to be about ten or eleven years old. They were evidently the owners of the clothes in question and were begging Buck and his cronies to give them up.

"I told you you could have them," Buck was saying. "All you have to do is to come and get them. But the minute you step foot on the bank, I'll throw your shoes into the water."

Between the offer and the threat, the small boys were in a dilemma. It was evident that they had been in the water a long time, for they were shivering and their teeth were chattering. They wanted their clothes badly, but they did not want to lose their shoes. So they stood there half whimpering with rage and cold.

The quandary in which Buck had placed his small victims seemed the very essence of humor to him and his cronies, who roared with laughter and slapped each other on the back.

At last, one of the boys in the water advanced timidly to the shore, hoping perhaps that Buck would give him back his clothes without making good his threat about the shoes. But the moment the boy stepped on the shore, Buck took up

one of his shoes and hurled it into the water.

The little fellow looked after it for a moment, and then his overstrained nerves gave way and he burst into tears.

This was too much for the Radio Boys, and they burst through the bushes and came on a run toward Buck and his gang. The latter looked up in alarm at the unexpected interruption and got up quickly on their feet.

"You cowardly, hulking bully!" cried Bob. "What do you mean by treating those little fellows that way? You ought to be thrashed within an inch of your life."

"You mind your business," growled Buck sullenly. "Who gave you a license to butt in, anyway?"

"I'll show you in a minute where I got my license," replied Bob. "Don't let him get away, fellows. Here, boys," he called to the boys in the water, "come here and get your clothes. There's only one more shoe going into the water, and it won't be yours."

The little fellows came out eagerly and then Bob turned to Buck.

"Take off your coat," he commanded curtly, at the same time peeling off his own and throwing it to the ground.

Buck looked around for help, but Joe had

ranged himself alongside of Lutz and Herb was looking after Mooney, and those worthies were not a bit inclined to mix in.

"My, but you're slow, Buck," remarked Bob. "You weren't half as slow when you were picking on those youngsters. Come, get busy."

There was no help for it, and Buck took off his coat. Then with a roar of rage he rushed at Bob, who sidestepped cleverly and caught Buck in the jaw with a blow that shook him from head to heels. Buck staggered for a moment and then rushed in to a clinch, and in an instant they were at it, hammer and tongs.

As Jimmy described it afterward it was a "peach of a scrap" while it lasted. But it did not last long. Buck was a little the older and considerably the heavier of the two, but he was no match for Bob in strength, cleverness and hard hitting. Bob met his opponent's rushes with smashing, skilfully placed blows that soon had Buck grunting and bewildered, and at last with a long drive to the point of the jaw stretched him on the ground, where he lay half blubbering with rage and pain.

"Had enough?" asked Bob. "If not, there's plenty more waiting for you. No trouble to show goods."

Buck made some unintelligible answer.

"Say enough," commanded Bob.

"Enough," growled Buck.

"All right," said Bob. "Now there's only one more thing you've got to do. Take off one of your shoes."

"I won't!" shouted Buck, stung into fury.

"Then stand up and take some more," commanded Bob. "It's one thing or the other."

But Buck had no stomach for any more fighting, and confronted by the two alternatives, he chose the lesser evil and took off one of his shoes.

Bob picked it up and flung it into the river, much to the delight of the two little fellows whom Buck had tormented.

"I guess that will be about all," remarked Bob, as he put on his coat. "The next time you want to bully little chaps that can't fight back, take a good look all around and make sure there's no one about that may interfere with your amusement. Come along, fellows."

They went on their way, followed by the black looks and enraged mutterings of the discomfited bully and his cronies.

"I've heard a good deal about poetic justice, but I never saw such a beautiful specimen as this," chuckled Joe. "Bob, I take off my hat to you."

"That's all right," laughed Herb. "But for the love of Pete, don't take off your shoe. Shoes aren't safe when Bob's around."

CHAPTER VII

GOOD RIDDANCE

BUCK did not turn up at school on the following day and the Radio Boys thought that they could guess the reason why.

"Don't think his beauty was improved any by the handling he got yesterday," laughed Jimmy. "Of course he might use the old gag that he had run against a door in the dark, but I'm afraid it wouldn't go."

"A door would hardly be likely to do to him what Bob did," rejoined Joe with a grin.

"Perhaps he's down at the river looking for that shoe of his," chuckled Herb.

Bob himself had said nothing to the rest of his schoolmates about the fight that he had had with Buck. It was enough that he had given the latter the punishment he deserved. He had no liking for the Indian practice of scalping the dead.

Lutz and Mooney were on hand as usual, but they gave the Radio Boys a wide berth, contenting themselves with an occasional malignant

glance when chance brought them in their vicinity. But later in the day Jimmy heard Lutz telling one of the schoolboys who had asked him about Buck that the latter had decided to take a little vacation and was going up into the woods for a while. The exact location of the woods was not specified, but the fact that he had gone away at all was so gratifying to Jimmy that he lost no time in carrying the welcome news to his companions.

Joe at first was inclined to be incredulous.

"Too good to be true," he declared. "To have Buck licked one day and go away the next! Luck doesn't come that way, like bananas—in bunches."

"'Though lost to sight to memory dear,'" quoted Herb.

"It will be a mighty good thing for Clintonia if he goes away and stays away," affirmed Bob. "He's been the worst element in the town—a pest that everybody dislikes except a few of his own kind. There doesn't seem to be a single decent streak in his whole make-up."

"It would be a good thing if he had taken Lutz and Mooney along with him," remarked Jimmy.

"Oh, they don't count," replied Bob. "They'll wriggle around as a snake does when its head is cut off, but that's about all. It was Buck who thought up the low-down tricks and then relied on them to help him carry them out."

"Well," said Joe, "if he's really gone we'll mark this day with a white stone. And let's hope that he'll be gone for a good long while."

And this was the general verdict of the school, especially of the younger boys whose lives Buck had made a torment by his bullying.

Nearly two weeks passed by when Mr. Layton, who had by this time fully recovered, received a letter from Mr. Bentley, stating that he would be in town the next day. Bob lost no time in conveying the information to the rest of the Radio Boys, who were quite as delighted as he was himself. Mr. Bentley's stay was to be brief, as he was traveling on Government business, but he would stop over night anyway, and especially mentioned that he hoped to see all the Radio Boys, of whom he retained so many pleasant memories from his previous visit.

"Will we be there?" replied Joe to Bob's question. "I'd like to see anything that would keep me away. It isn't every day a fellow get's a chance to talk with a live wire like him."

The rest of his friends were just as emphatic, and were at Bob's house the following night even a little before the time appointed.

There, too, was Payne Bentley, tall and bronzed and athletic, bringing with him the breezy suggestion of a man whose life is spent largely in the open.

He greeted the boys with the heartiness that was characteristic of him, and they on their part showed their whole-souled pleasure in meeting him again.

"I've got a little surprise for you, fellows," said Bob. "Here it is," and he pushed shut a door, revealing Mr. Frank Brandon, who had been standing behind it, and who now advanced with a smile to shake hands with the surprised and delighted boys.

"Wasn't it you, Joe, who said a little while ago that good luck didn't come, like bananas, in bunches?" asked Bob. "Well, here's a case that proves you're wrong."

"I surely was," laughed Joe. "It was a good wind that blew them both here at the same time."

"You see, Frank and I are old friends," explained Mr. Bentley, as they all took chairs and settled down for a cosy chat. "We're both in the Government service, although along somewhat different lines, and every once in a while we run across each other. I met him on the train as I was coming here and persuaded him to drop off with me and stay over night. And I didn't have to persuade him very much when I told him whom I was going to see, for he thinks you Radio Boys are just about the real thing."

"That's putting it a little too strongly, I'm afraid," replied the delighted Bob.

"Not a bit," protested Mr. Bentley. "I was willing to agree with him after he told me of how you saved the ship on that stormy night and how you pursued and captured the rascal that tried to kill his cousin. Oh, you see I know all the deep dark secrets of your lives.

"That's the kind of fellows we'd like to have in the Forest Service when they get old enough," he went on. "Frank here tells me that he's got his eye on you for the radio work, but if he doesn't book you for that, come to me and see how you like the work of a forest ranger."

"Speaking of forestry work," said Bob, taking advantage of the opening to turn the conversation away from him and his chums, "I want to tell you, Mr. Bentley, how we enjoyed your talk over the radio. We thought it was splendid from start to finish."

"And that message at the end almost knocked us off our chairs with surprise and pleasure," put in Joe.

"So you got that, did you?" returned Mr. Bentley, smiling. "I wasn't dead sure that you'd be listening, but put it in on a chance. Well, you see I've kept my word."

"And mighty glad we are that you have," said Herb. "The only trouble with your speech that night was that it was too short. I could have kept on listening all night."

"I'm glad you felt that way," replied Mr. Bentley. "I didn't know but what I was boring my audience stiff. If I'd only been able to see the people I was talking to, I could have told something by the looks on their faces. But the dead silence and the lack of response rather got on my nerves. I'd have felt a lot more comfortable if I'd been fighting a forest fire."

"Rather queer idea of comfort, don't you think?" laughed Bob.

CHAPTER VIII

AT RISK OF LIFE

MR. BENTLEY joined in the general laugh that followed Bob's remark.

"Well, I don't suppose it could be called exactly comfortable to have your hands blistered and your hair singed and not know whether the next minute you're going to be alive or dead," he admitted. "But after all there's an excitement in fighting a fire and a sense of victory when you get the better of it that pays for all the work and pain. It's a funny thing that when you once get into the work you don't want to leave it. Once a forester always a forester seems to be the rule. I suppose the call of the woods to the forest ranger is like the call of the sea to the sailor."

"I guess there'll always be fires, so that you'll never get out of a job," suggested Frank Brandon.

"Right you are," replied Mr. Bentley. "Do you know, that with all the advances that have been made in guarding against fires, more than

three hundred thousand acres of woodland were burned over last year? Why, that's equal to a strip ten miles wide reaching from New York City to Denver. The timber lost in one year would build homes for a city of four hundred thousand people."

A gasp of astonishment came from every one of the boys.

"Did you ever!"

"Some loss!"

"What a shame to lose so much valuable timber!"

"Just what I say. Why can't people be more careful with fire?"

"Those are mighty big figures," commented Frank Brandon. "What are the causes of so many fires?"

"There's a host of causes," replied Mr. Bentley. "But most fires could be avoided. In one district last year, nearly forty per cent. of the fires were caused by smokers. Campers knock the sparks out of their pipes and throw away half smoked cigarettes. They fall in a little heap of brushwood that perhaps is as dry as tinder, smoulder there for a time and a little later break out into flames. The Government is doing all it can by signs and warnings to curb the evil, but as long as there are careless and inconsiderate people there will be forest fires.

"Then too, lightning is responsible for many fires. Often that brings its own remedy with it, for lightning usually occurs during a rain storm, and the water that comes down drowns out the fire that the lightning starts. But it doesn't always work that way.

"Sometimes it's a meteor that does the damage. Those big stones are sometimes white hot when they strike the ground, and if that ground happens to be in a thick wood, a fire is almost inevitable. Of course it isn't often that that happens, but when it does, it has to be reckoned with, believe me!

"I've known of many fires that have been started by these fire balloons that you see sometimes drifting along the sky especially around the Fourth of July. It happens sometimes that the inflammable material in the balloons has not completely burned itself out when the balloon reaches the ground. If this happens in a dry spot in the woods, a fire is not only likely, but is a practical certainty.

"You'd think it strange perhaps," the ranger went on, as he looked with a smile about the room, "if I told you that sleet and snow are responsible for many forest fires."

"Sleet and snow!" exclaimed Bob. "Why, I should think it would be just the other way

around and that they'd help put out fires instead of causing them."

"That would be the natural supposition," conceded Mr. Bentley. "What I mean is this. Whenever the winter has been very severe and there have been heavy storms of sleet and snow, the trunk and branches get loaded with tons and tons of ice. As a fierce gale often accompanies the storm, the heavily burdened trees are blown down. As the summer comes on, the dead tree and branches dry out, and all they need is a spark to set them going. If those dead masses of brushwood had been standing, living trees, the spark would have had nothing to feed upon and would have died out harmlessly."

"Even nature seems in league against you, as well as the carelessness of men," remarked Mr. Brandon.

"That's what," agreed Mr. Payne Bentley. "And there are times when one is tempted to grow disheartened. But great as the losses are, they're not so heavy as they used to be. We're gradually getting the best of the fire fiend, although at times progress seems slow. It's only when you compare conditions of to-day with what they were before the Government woke up that you realize what great strides have been made in the protection of the forests.

"Of course, the most important thing in limiting the fire loss is the education of the public. They've got to coöperate and help stop the tremendous waste. When you realize that in the last five years there have been one hundred and sixty thousand forest fires in the United States and that at least eighty per cent. of these were preventable you see who's responsible. The public is starting more fires than the small force of forest rangers can put out. Of course one way would be to forbid the public to camp in or travel through the national forests during the dry season. But that would be a hardship when you realize that more than five million people enjoyed their outings in those forests last year. Yet Canada has had to forbid it, and the United States may have to come to the same thing if tourists and campers will persist in leaving the burning embers of their campfires behind them and throwing from traveling automobiles lighted cigars into the brushwood."

"What do you chiefly rely on in your work?" asked Frank Brandon.

"Airplanes and radio," replied the ranger. "The airplanes are the eyes of the service and the radio is the tongue. The airplanes scout around above the forests, always on the watch for the slightest sign of smoke or flame. The instant they detect it they radio the news to all the listen-

ing stations for miles around. And they've grown so skilful in placing the exact location of a fire that in the squadron I was with last year thirty-three per cent. of the fires that were reported were within a quarter of a mile of the exact point stated. Nineteen per cent. came within half a mile, as was determined later by actual surveys of the ground. And none of the others were far out of the way. That's something of a record, when you think of the height at which the aviators are flying and the wide extent of space that they have to cover."

"I should say it was," agreed Mr. Brandon, with a nod.

"And think of the promptness with which it was done," went on Mr. Bentley. "Within ten seconds after the first trace of fire was discovered, the news was known for all of a hundred miles around.

"The airplane comes in handy, too, for carrying trained fire fighters to the scene of the trouble. I remember once carrying a bunch of rangers in seventy minutes to a burning area. To travel the same distance by land, journeying by canoe and by portage, would have taken three days.

"We flew at a height of three thousand feet, and when we got there we could trace the whole outline of the fire and decided where the fire-

fighting gangs who came hurrying from every direction could best be placed.

"I tell you that was some strenuous job! Up in the air your eyes are burning and smarting from the pungent fumes that come from the trees below, and it is as much as you can do to see at all."

"Just what was the plan on which the men did the work when they started to put out the fire?" asked Herb, with intense interest.

"First," Mr. Bentley replied, "the gangs attacked the fire at its most dangerous point, which we pointed out to them. Some trees in the line of fire they chopped down. Then they cut fire lines through the leaf litter to mineral soil, threw sand on burning stumps and used water wherever it was available. They worked by shifts and got their food when they could.

"During that time, while one plane would be directing the work by radio messages, another plane would be busy in bringing supplies and food for the men. The fire lasted nearly a week before it was fully subdued, and, I can tell you, by that time we were all in!"

"It's too bad that you have to rely so completely on man power," commented Mr. Brandon. "No matter how much grit's behind it, the time comes when human muscle has reached its limit and can do no more. It would seem as though in some

way the machinery which does so much work in the cities could be used for similar purposes in the forest."

"It would seem so," agreed Mr. Bentley. "But the difficulty of transportation through a wilderness, that often has faint trails instead of beaten paths and sometimes not even those, is so great that I doubt whether machinery can ever be utilized on a large scale.

"We have made a little progress though in that direction. There's a clever little pump that is operated by gasoline and weighs only one hundred and twenty pounds, so that two men can carry it along a forest trail. Each pump is provided with twelve hundred feet of hose, which gives it an effective radius of about a quarter of a mile, and a very small brook will suffice to supply it with water. It's a dandy little machine, and I've known it to do the work of from sixty to seventy-five men working with shovels, hose and axes."

"Some pump!" ejaculated Joe, in admiration.

"Almost as good as an engine," came from Bob.

"Yes," agreed Mr. Bentley. "But of course it can be used only when there happens to be water near at hand. No doubt the time will come when chemicals will be used instead of water, and then the pumps can work anywhere. But chemicals are of use chiefly at the start of a fire, and perhaps

wouldn't be feasible for anything on the scale of a forest fire.

"So for the present at least, and probably for some time to come, we'll have to rely on the men in the Forest Service. I don't mean that they have to do their work alone. When the alarm is given everybody pitches in and works like a beaver. There's never any lack of volunteers. All in the vicinity unite to fight the common peril."

"Gee!" exclaimed Jimmy, his eyes shining, "I wish I had a chance to fight a forest fire."

"Same here," came in a chorus from the other Radio Boys.

CHAPTER IX

OFF FOR SPRUCE MOUNTAIN

MR. BENTLEY and Frank Brandon smiled appreciatively at the boys' enthusiasm.

"You'd have plenty of chances if you were with Bentley in the Spruce Mountain district to which he has been transferred," said Mr. Brandon.

"I suppose you fellows have heard of Spruce Mountain before now, haven't you?" inquired Payne Bentley.

"It seems to me I have," said Bob, somewhat doubtfully. "Doesn't Dr. Dale own some timberland up in that part of the country? Seems to me I've heard him say something about it."

Mr. Bentley nodded.

"He has about a hundred acres, I believe. And in addition to that, he holds an equal amount in trust for the benefit of the Old First Church. With the price of lumber going higher every day, you can believe that woodland is rather valuable."

"I should say it must be," agreed Jimmy, with conviction. "Whenever I want to get a little

money from my dad, he tells me that the high price of lumber is keeping him so poor that he can't afford it."

"Well, if it weren't for some of the disastrous forest fires of recent years, lumber would be more plentiful now," remarked Mr. Bentley. "However, in those days we didn't have radio to help us, and we hope there will never be other fires of such size as to wipe out whole forests in one conflagration."

"I wish we could all get a chance to visit you at Spruce Mountain," said Joe longingly. "I suppose that's too much to hope for though."

"Stranger things than that have happened," replied the forest ranger. "I happen to know that Doctor Dale owns an old hunting lodge up there that was on the property when he bought it. I understand you boys are pretty solid with him, and I'm sure he'd be willing to let you use it. There'd be worse places to spend part of your vacation. Your school, I suppose, will close pretty soon now."

"Three weeks earlier than usual this year, Mr. Preston told us a few days ago," answered Bob. "There are going to be extensive repairs, and the ordinary vacation wouldn't be long enough to do them in. We'll probably be through school now in a couple of weeks. If our folks think well of it, we might take a trip to Spruce Mountain first

and still have plenty of time later on at the seaside."

"That would be fine," responded Mr. Bentley cordially. "And I think I can promise you something brand new in the way of experience."

They sat talking till late and then the party broke up, the forest ranger and Frank Brandon taking a hearty farewell of the boys, as they had to take an early train in the morning.

It was not very hard for the boys to get the required permission from their parents, and Dr. Dale was only too glad to put his lodge at their service. The remaining days of school flew by quickly while they were getting together equipment and supplies for their trip. But when Bob's father saw the formidable outfit, including a radio set, for both receiving and sending, that Bob proposed to take with him, he threw up his hands with a gesture of dismay.

"If all the rest of you boys intend to take as much apiece as you've got, Bob, you'll need a motor truck," said Mr. Layton.

"It does look like a lot," admitted Bob, ruefully. "But there's hardly anything there that I won't actually need. There's no place within miles of the cabin where we can buy stuff."

"I suppose that's true," said Mr. Layton, eyeing the stack of merchandise thoughtfully. "I suppose you'd feel awfully bad if I hired an auto-

mobile to take you and the others to Spruce Mountain, wouldn't you?"

"Dad, we'll never get over feeling grateful to you if you do!" declared Bob. "It will be the greatest thing that ever happened!"

"Well, in that case, I suppose there's no choice left me," declared Mr. Layton, with a twinkle in his eye. "You tell the others I'll stand for the automobile, and I guess I'd better order an especially big one while I'm about it."

Bob lost no time in communicating this last bit of good news to the others, and they were all delighted, particularly Jimmy, who had looked forward with considerable apprehension to a long hike through the woods with sixty pounds of food and equipment strapped to his suffering shoulders. To be sure, Dr. Dale had told them that they would find almost everything they would require in the way of furniture and cooking utensils in the cabin, but they had to take all their food with them and several blankets apiece, as Mr. Bentley had warned them that the nights were often cold.

It seemed to the eager boys that the day set for their departure would never arrive, but at length they found themselves, one beautiful summer morning, seated in the big touring car that Mr. Layton had provided and headed for the hunting shack on Spruce Mountain.

Their belongings were piled high in the ton-

neau, and the boys occupied what little space was left. This was not much, but they cared little for that as the big car hummed along over a perfect road, headed for the cabin in the depths of the forest. Mr. Bentley had returned several days before to the headquarters of the forest rangers at Spruce Mountain, and had promised to be on the lookout for them when they arrived.

"Your dad should have gotten us two cars, Bob; one to ride in, and the other for the baggage," said Jimmy, as a sudden swerve of the car sent him rolling into a hollow between two bags. "I'll be getting thrown out, first thing you know, and then what will you fellows do away up there in the woods, with nobody to protect and take care of you?"

"There's gratitude for you!" exclaimed Joe, indignantly. "You'll get thrown out fast enough, Doughnuts, but we'll do the throwing, not the car."

"Bob wouldn't let you throw me out," said Jimmy, with calm conviction. "He knows well enough that I'm the brains of this party."

"Gosh! that's a terrible knock at the party, then," remarked Herb.

"Oh, I don't know about that," said Jimmy. "Remember, Herb, that almost any brains are better than yours."

Herb made an indignant lunge at him, but

Bob and Joe caught hold of him before he could take vengeance on their rotund friend.

"Wait a minute, wait a minute," laughed Bob. "It seems to me there's a good deal of truth in what Jimmy says, after all, don't you think so, Joe?"

"There's no doubt about it," asserted the doctor's son. "In fact, I'd be willing to go a step further, and say that brains like Herb's are a shade worse than nothing at all. Just look at some of the jokes he works off on us."

"There you are!" crowed Jimmy, triumphantly. "What better evidence could I have against Herb than some of his own jokes? They'd convict him before any jury."

"You win with us, anyway," laughed Bob. "Will you promise to leave Jimmy alone if we let you go, Herb?"

"Oh, I suppose so," grunted Herb. "To get even, I'd have to lick the whole bunch of you, and I don't feel strong enough for that just now. I'll wait till we get back in Clintonia, and then I'll tell you all what I think of you—over the telephone."

"That will be the safest way, if you care to live a little longer," Joe returned. "Even then, though, I'd advise you to start for Canada and points north as soon as you hang up the receiver."

"Well, it might be worth the trip for the sake

of giving you a good earful, but I'll have to think it over," replied Herb, with a grin. "In the meantime, here's a good riddle for you. You might use it, Bob, in case you do some more radio broadcasting some day."

"It hardly seems possible that I'd ever want to repeat one of your riddles, Herb; but let's hear it, anyway," observed Bob. "We've still got a long way to go, and I suppose we might as well kill time that way as any other."

"Well, then, here goes," said Herb, grinning happily in anticipation of his friends' bewilderment. "What is it that sings, has four legs, and flies through the air?"

"Good night!" exclaimed Jimmy. "That sounds too complicated for me. I'm going to take a nap while you fellows puzzle it out."

"Talk about brains!" exclaimed Herb. "You always duck out of any kind of headwork by taking a nap, Doughnuts. Why don't you give that imitation mind of yours a little exercise once in a while?"

The only answer Herb received, however, was a gentle snore from his fat friend, so he turned expectantly to Bob and Joe, who were both cudgeling their brains for the answer to his riddle.

"Haven't you thought of it yet?" asked Herb. "It's so simple, that I thought you would guess the answer right off the reel."

"Of course it seems easy when you know the answer," said Bob, impatiently. "Shut up a few minutes and give us a chance to think, can't you?"

"Oh, sure, take your time," agreed Herb, and chuckled to himself as he saw them wrestling with the problem.

"Gee!" exclaimed Bob, at length. "I guess it's too deep for me, Joe. Can you make anything out of it?"

"I hate to give it up, but I guess we'll have to," answered Joe. "What is it that sings and has four legs and flies through the air, Herb?"

"Why, two canary birds, of course," chortled Herb, and gave a shout of laughter that brought Jimmy up to a sitting position with a look of alarm on his round face. As for Bob and Joe, they gazed blankly at each other for a few moments, then had to join in their friend's laughter in spite of themselves.

"What's the joke?" inquired Jimmy, suspiciously. "Is it that phoney riddle of Herb's? I'll bet any money there was a trick in it somewhere. It didn't sound on the level when I first heard it."

"You were wise to go to sleep, Doughnuts," Joe assured him. "The next time I ever pay any attention to one of Herb's jokes, I hope somebody comes along and shoots me. It would be no more than I'd deserve."

"Don't get sore just because you couldn't

guess it," Herb adjured him. "I'll try to think up a nice easy one next time—something that even you goofs can solve."

Joe was about to make a withering reply when the driver of the car uttered a startled shout and gave the wheel a twist that almost threw the boys out in the road.

CHAPTER X

THE FALLING BOWLDER

A FEW minutes before this, after a long uphill climb, the car had entered a narrow ravine between two hills, the sides of which were studded with great bowlders. One of these had become dislodged in some manner, and it was the sight of the huge stone rolling and clattering directly down upon them that had brought the cry of alarm from the driver.

As it rolled down the precipitous slope, the big bowlder dislodged tons of gravel and dirt, which came flying down with it, until it was the center of a small landslide. To the Radio Boys, it seemed that there was no escape for them, and they gripped the sides of the car, prepared to jump out as a last resort, although it seemed as though that could avail them little. The ground trembled, and a noise like thunder filled the air.

It was impossible to stop, as this would leave them directly in the path of the oncoming

bowlder. Their only chance lay in putting on speed and attempting to get past ahead of the huge stone, which was now bounding downward at terrific speed, part of the time leaping bodily through the air as it caromed off some obstruction in its path.

The driver opened the throttle to the limit, but the car was heavily laden, and accelerated sluggishly. For a few seconds their fate hung in the balance. The great bowlder hurtled down upon them, and leaped into the air directly above them. Looking up, the boys could see the tremendous mass perhaps a hundred feet away, its shadow blotting out the sun. The automobile seemed to be only creeping, and seconds seemed like hours. Then, with a crash that made the ground quiver and shake, the bowlder plunged to the road not fifteen feet back of their car. Flying splinters of rock pelted over those in the automobile, and they crouched low to avoid the deadly shower. Tons of sand and gravel followed the bowlder and piled across the road where their car had passed a few short seconds before, forming a drift many feet deep.

But now the moment of dire peril had passed, and the occupants of the car drew long sighs of relief. The driver kept on at high speed until they had passed through the defile, and then pulled up and shut off the engine. His hand

shook, and several moments went by before he trusted himself to speak.

"Whew!" he exclaimed finally in a voice that was not quite steady. "That was what you might call a close shave, young fellers."

"Too close for comfort," said Herb, essaying a grin that somehow did not look quite natural. "I wonder what we'd look like now if that bowlder had landed on top of us."

"That's a nice, cheerful thought, I must say," replied Bob. "We would have the same general appearance as a dog run over by a steam roller. I think we owe a vote of thanks to our driver for getting us out of a tight place."

The thanks were enthusiastically given, and in a short time, they resumed the journey.

Not much was said for a long time, as each was busy with thoughts of their recent narrow escape. Eventually the boys recovered their usual care-free spirits, however, and they began to pay attention to the country through which they were passing.

Starting over level roads, they were now in a rolling, hilly country, thickly clothed with trees. Sometimes the road ran for miles through dense woods, where the sun could penetrate only in scattered patches through the heavy foliage and where the cool shade was most welcome after

the scorching sun that had beaten down upon them along the stretches of open country. Soon they began to feel hungry, and Jimmy was not long in proposing a halt for lunch.

"I suppose you fellows were so scared by that big rock that you won't be able to eat for a week," he remarked. "To a brave gink like me, though, danger only gives a keener edge to his appetite."

"Fortune help us, then!" exclaimed Herb. "If your appetite is much keener than usual, Jimmy, all our grub will be gone before we ever reach Spruce Mountain."

"Oh, well, if it is, I'll go out and kill a bear or two every morning, so don't let that worry you," replied Jimmy, airily. "Mr. Bentley said there were quite a few bears around that part of the country, and they seem to be my natural prey. When I can't find any lions to kill, I like to keep in practice on bears."

"Huh! why didn't you give us a demonstration when Tony's dancing bear chased us up on to the roof of Buck Looker's bungalow?" inquired Joe.

"From what I remember of that scrape, Jimmy seemed rather anxious to avoid the bear," remarked Bob. "The way he shinned up the front porch you might almost have thought he was afraid of the poor animal."

"Aw, he was a tame bear!" protested Jimmy.

"I like the wild ones; the wilder the better. I wouldn't hurt a tame one like Tony's. I only bother with the real fierce ones."

"Well, when we get to the lodge, we'll see if we can't borrow a trap and catch a bear," said Bob. "Then you can go and let him out of the trap, Jimmy, and kill him with your bare hands, or by whatever method it is that you use. The rest of us will climb the nearest tree and get an idea of how it's done."

"What *do* you do, anyway, Doughnuts? Strangle the poor brutes, or bite them to death?" inquired Herb, with every appearance of an earnest seeker after knowledge.

"Never you mind; just wait until the bear comes along, that's all," said Jimmy, with reprehensible vagueness. "I'm hungry enough to eat one raw right now, hide and all. Here's some chicken sandwiches my mother put up, and if you Indians want any of them you'd better act quickly."

The others needed no second invitation, and the sandwiches, together with a number of other home-cooked dainties, disappeared with wonderful rapidity. When they had finished, the boys stretched out luxuriously on the sweet-scented pine needles with which the ground was strewn, and all felt as though life could offer them little more. Jimmy took prompt advantage of the

springy couch, and was soon dreaming of a happy land where all the mountains were made of pies and doughnuts. The others soon succumbed to the drowsy effects of their hearty meal, and the shadows were gathering heavily before they finally resumed their journey.

"We shouldn't have stayed here so long," said the driver, as they started on again. "We've still a good bit to go, and it will be dark in a few hours. This good road won't last much longer, either."

"Well, step on the accelerator while we still have the light, and we may not be so late, after all," suggested Bob. "If you get tired driving, just say so, and I'll take the wheel for a time and give you a rest."

But the driver would not hear of this. As he had foretold, the road rapidly grew rougher, and at last it got so bad that they were forced to proceed at an exasperatingly slow pace for anyone at all anxious to get anywhere. The boys were thrown about here and there, and had to cling to the sides of the car to keep from being thrown out. Twilight changed to darkness, and, though on Spruce Mountain, they were still many miles from their destination. Suddenly the driver jammed on his brakes and the big car came to a shuddering halt not two feet from a big tree that had fallen across the road. The woods grew

dense on either side of the road, so that there was no possible chance of getting around the obstruction.

"Looks as though we were here for the night," observed the driver, scratching his head in perplexity. "This boiler can't fly, and I don't see any other way of getting on the other side of that tree."

"I do!" exclaimed Bob, decisively. "We've got axes in the car, so why can't we cut away a section of the trunk and go through sailing? How about it, fellows?"

For answer the boys made a dive for the tonneau, and in a few minutes the forest was ringing to the sound of their axes. The tree was of fair size, but in less than an hour they had chopped away a section of the trunk and rolled it to one side. This left an opening wide enough for the automobile to pass through, and they were soon bumping and jolting over the uneven road once more.

"I hope we haven't got much further to go," groaned Jimmy, after one particularly hard jolt. "Seems to me I'll have to spend most of our time at Spruce Mountain in recovering from this trip. It would be more fun to walk."

"Oh, quit your grumbling. We can't have very much further to go," said Joe. "I'll have to admit I've ridden on better roads, though."

But as Joe had said, their ride was almost at an end. A little further, and the driver turned up a side road, jolted along for a few hundred feet, and then, in the glare of the powerful headlights, they could see the outlines of a low, rambling building that they knew must be Dr. Dale's bungalow. And sure enough, the key that had been intrusted to Bob's care fitted the big padlock that secured the door, and the boys found themselves in the dim interior. They spent little time in examining the place, leaving that until the following day, but busied themselves in transferring their belongings from the car to the house. This done, they ate a hearty supper, tumbled into their bunks, and were soon sleeping the sleep that comes from an exciting day in the open. But the next morning they were up bright and early, for the man who had brought them up wanted to get an early start back. After this the lads examined the place curiously and spent the next day or two in getting settled and getting acquainted with their surroundings.

CHAPTER XI

FOREST RADIO

"I'LL say this is the life," said Herb, as he rambled happily about the lodge which Dr. Dale had turned over to the Radio Boys for a temporary camping place. "Say, fellows, did you ever hear that one about——"

"Shoot him, someone," interrupted Jimmy, hard-heartedly. "That's the fifth near joke he has tried to work off on us this morning."

"Yeah, come and help with this bacon," added Joe, who was struggling manfully to keep a panful of the aforementioned article from burning to a crisp. "If I don't eat pretty soon I'm going to drop dead."

"Same here," groaned Bob, and went to the rescue just in time to save the bacon.

The lodge was a picturesque, rambling little building with small, many-paned windows and a steeply slanting roof. At some time or other someone had planted vines about its foundations, and these had flourished until the walls were al-

most completely covered with bright green foliage.

Inside there were three small rooms furnished roughly—the one or two tables and scattered chairs looking as though they had been put together by hand.

The one main room of the little house served as kitchen, living room and dining room all in one but it was large and rambling and comfortable with its great open fireplace at one end and tiny oil stove for cooking at the other.

There were trophies on its rough-beamed walls also and these the boys regarded with interest—old rifles that looked as though they had seen a good deal of service, a horn or two and, in a conspicuous place directly over the fireplace, the great, antlered head of a buck.

This, together with the fact that there were four fairly comfortable cots in the two small rooms adjoining the main one and that there were enough battered utensils in which to cook their meals, was enough to satisfy the boys; especially as the lodge was not more than a stone's throw away from the headquarters of the forest rangers.

"I hope we'll meet some of those boys to-day," said Bob, referring to the rangers.

"We're sure to, if we go up to the station," returned Joe, as he sat down at the table, prepara-

tory to eating the bacon and eggs of his own preparing. "Probably Mr. Bentley will show us the works and introduce the boys as we go along."

"Say, give me some more of everything, will you?" asked Jimmy hungrily. For that moment Jimmy's mind was on one thing only—and that thing, food. "I never tasted anything half so good as that bacon."

Flattered, Joe helped him to a double portion.

"You never knew what a fine cook I was before, did you, Doughnuts?" he asked complacently. Jimmy grinned wickedly at him.

"Huh," he said. "It isn't the cooking—it's my appetite!"

"Say, you crook," cried Joe, making a dive for Jimmy's plate, "come back with that grub!"

But it was too late. The food had already disappeared.

They had finished breakfast, had scraped up the pots and pans and were preparing to leave the cabin before they remembered that this was the day Dr. Dale had promised to "drop in on them" to see if everything was all right.

"Oh, well, he won't be here before noon, anyway," reasoned Bob. "And we'll have time to say howdy to Mr. Bentley and get back before then."

"Let's go," cried Herb exuberantly. "I want

to find out if those forest rangers are the kind of fellows Mr. Bentley pictured 'em."

"We won't have to stay long to-day," said Bob, as he locked the door of the lodge and turned with the others down the woods path that led in the direction of the station. "There will be plenty of other days when we can stay as long as we like."

"You sure said it that time, Bob," cried Joe, joyfully. "Something tells me we're going to have the time of our lives in this neck of the woods."

But little did Joe guess when he uttered the careless words what kind of excitement they were destined to meet in that "neck of the woods."

They soon came upon the camp of the rangers, a long low building, situated close to the banks of the lake. Above the station, shooting straight up through the trees to the cloudless blue of the sky, towered the mast to which the antenna of the powerful radio apparatus was attached.

The sight of that huge mast with the attached wires stretching sensitive fingers into the vibrating ether thrilled the boys, fired their imaginations. For those slender lines of wire, seemingly so frail, were, in reality, more powerful than a host of men in guarding the safety of the forest. For, where a man could see only as far as his

eyesight permitted, the eyes of radio searched for scores, for hundreds of miles, ever on the alert to catch the first faint hint of danger. One small flame shooting through the dried underbrush of the forest, and immediately, through the warning of the radio, countless men were put upon the defensive, intrepid, fearless rangers rushing to the scene of danger to meet the dreadful menace and subdue it.

For several seconds the boys stood still upon the edge of the cleared space, gazing upward, awed by the power of their beloved radio.

Bob, perhaps unconsciously, summed up all their thoughts when he said: "Wherever it is, it does the trick!"

At that moment Mr. Bentley, attired in his aviator's suit and in company with two or three other men, stepped out on the porch of the building.

He saw the boys and came toward them at once, his hand outstretched in cordial greeting.

"Well, well, well!" he said, heartily. "If I'm not glad to see you boys! Come on in and make yourselves at home."

The three men who had been in conversation with Mr. Bentley were introduced by the latter as fellow rangers, and it was not long before the Radio Boys felt as though they had known these rugged fine fellows all their lives.

Then Mr. Bentley showed them through the station himself, "introducing them" as he said, "to the whole works."

The boys were intensely interested in everything, feeling, since Mr. Bentley's memorable talk to them at Bob's house on that day when they had first met the forest ranger, as though the whole place were familiar to them.

They were shown the "quarters" of the rangers. These were fitted up quite comfortably, considering the rough work of the men. And there also was the apartment where were stored the weapons used in the fighting of that great forest enemy, fire.

But, needless to say, interested as they were in other departments of the station, the one that interested them most powerfully was the radio room.

The huge dynamo absorbed them and the tremendously complicated mechanism of the set itself held them rapt and awed. The operator, a nice young chap with crisp curling red hair, was instantly won by the boys' admiration of the apparatus and, led on by their intelligent eager questions, he gave them many technical details which fascinated them.

"No wonder," Bob breathed at last, "you have been so successful in the fighting of forest fires. With a set like this——"

"Yes, it's a wonder," broke in the red-haired chap quickly. "There's no denying that our apparatus is the best of its kind. But even at that, we, here at the station, wouldn't be able to do very much without the coöperation of our radio-equipped air force. They are the real eyes of our organization. We merely receive information from them and act upon it. Mr. Bentley here," he turned with a smile to the latter, "will tell you how important the air service is."

Payne Bentley grinned good-naturedly.

"Sure," he said, "we aviators think it's pretty classy. Just the same," he added seriously, "an air force without a base to work from would be pretty much like Hamlet with Hamlet left out. The two branches of the service are absolutely dependent one upon the other. Apart, neither branch would be effective. Together—well," he ended with a boyish grin, "I'll tell the world, we're pretty good."

As the boys said good-by to the curly-haired operator, promising to return in a day or two, and followed Payne Bentley down the stairs, they were ready to agree heartily with the latter in his estimate of the worth of the Forestry Service.

Bob said as much to Mr. Bentley as they stopped on the porch for a moment or two of talk. He added, with a laugh:

"But now that we have a perfect fire-fighting system—where are the fires?"

Mr. Bentley laughed, the fine lines radiating from the corners of his eyes.

"That's a pretty sound question," he said. "But one to which we luckily have no answer just at present. With the exception of two or three small outbreaks not worthy of mention, there have been no fires for a considerable time. Our boys are getting lazy from light work."

"Perhaps," said Bob with a laugh, "the fires are scared."

"Forest rangers got 'em bluffed, eh?" asked Mr. Bentley, with a twinkle in his eyes.

CHAPTER XII

THE ICE PATROL

"BUT say, I call this pretty tough," broke in the irrepressible Herb. "Here we fellows came away up to Spruce Mountain in the hope of finding a little excitement, and you say there aren't going to be any more fires. What kind of treatment do you call that, I'd like to know?"

This time Mr. Bentley laughed whole-heartedly.

"Sorry to cheat you out of a good show, my boy," he said, while the others grinned. "Perhaps we'll be able to put on something for you before you leave. However," and his face became suddenly grave, "a forest fire is really not in the least amusing. It is the most heartbreaking thing in the world—a fight that brings out all that is best in a man, a struggle that taxes his courage to the limit. If you had ever lived through one—a real one, I mean, where your flesh is scorched and your eyes go blind in the agony of the fight—you would be thankful, as we here at the station are thankful, for this respite.

It is probably only a respite," he continued in his old light tone, "for the old demon is bound to break out sometime, somewhere. And when it does, there will be excitement enough to satisfy even you lads."

As the boys walked slowly back toward the lodge, Mr. Bentley's words went with them. But, so far from dulling their desire to see a real forest fire—one "in which your flesh is scorched and your eyes go blind in the agony of the fight" —the ranger's vivid description merely fired their imaginations and made them all the more eager, not only to see, but to participate in such a fight.

"It would be worth a couple of burned hands and the loss of an eyebrow or two," chuckled Joe, unconsciously voicing what was in the minds of all of them, "just to be in a show like that once."

"I'll say it would," agreed Jimmy, softly.

As they neared the lodge their pace quickened. They had spent more time at the station than they had intended and they were fearful that Dr. Dale might have arrived to find no one awaiting him.

But the rambling little house was as quiet as it had been when they left it and they concluded that Dr. Dale had scheduled his arrival for some time later that afternoon.

They set about getting lunch, talking excitedly about the marvels of the ranger station.

"Say, make believe I wouldn't like to get a job there!" cried Herb, longingly. "Believe me, those rangers live some easy life."

"Except when there happens to be a fire," Bob reminded him. "From what Mr. Bentley says, I guess at such times they are pretty much on the job. But say, fellows, be honest," he added. "Did you ever see a radio outfit to equal that set over there?"

"Sure is some apparatus," agreed Joe, appreciatively. "The fellow I envy most is that operator. I'll tell you, he's the one that has the real job."

Later in the day Dr. Dale came, to be greeted boisterously by the boys. The clergyman was in a good humor himself and listened with an indulgent smile while the boys poured the story of the morning's visit to the rangers into his willing ears.

"I don't wonder you're enthusiastic," he said. "Seems to me the forest rangers have about the most romantic branch of the Government, even more so, perhaps than the men of the Iceberg Patrol."

"What's that?" queried the boys, instantly alert. For they knew by experience and by the far-away look in Dr. Dale's eyes that he was thinking of something interesting.

"Why," said the doctor, settling himself com-

fortably, "I had in mind the International Ice Patrol which was organized soon after the disaster of the 'Titanic.' "

"Oh," said Bob, with interest. "The 'Titanic' was wrecked by colliding with an iceberg, wasn't she?"

Dr. Dale nodded soberly.

"Went down with hundreds of souls," he answered. "A useless and horrible waste of lives." He paused, while in his eyes was a great pity for those who had gone down with the great ocean liner.

"And after the horse had been stolen," he went on, just when the boys thought they could stand the delay no longer, "our Government, as well as the Government of other nations, decided to lock the stable door."

"And did they do it?" asked Joe eagerly.

"They did it—and nobly," answered the doctor, with a smile. "That was when they started the International Ice Patrol.

"You see," he went on, while the boys listened interestedly, "in the old days, the transatlantic steamers ran directly through the most dangerous part of the spring ice field and only the greatest vigilance on the part of their captains kept them from colliding with the giant icebergs drifting from the north."

"Must have been fun though," interrupted

Herb. "Dodging in and out of icebergs and seeing how close you could come without getting scratched."

"Yes," replied Dr. Dale, "but it wasn't any fun at all when you did get scratched. And in the old days that happened all too often, especially in foggy weather."

"They didn't have any radio in those days, either," put in Bob, thoughtfully.

"No," returned the doctor. "At that time radio was very much in its infancy and no one thought of using it for the purpose of combating icebergs."

"And are they now—using radio, I mean?" asked Jimmy, eagerly.

"Very much so," replied the doctor. "After the tragedy of the 'Titanic,' the big nations got together and thought up a method by which radio—then still in its infancy—might be used to warn vessels of the presence of ice and turn them aside from the danger zone."

"That's one use of radio I never thought of before," said Joe. "Can you tell us how it's done, Doctor?"

"Very sketchily, I'm afraid," returned the doctor, modestly. "I haven't made a study of it at all, although the romance of the service has always appealed to me.

"You see," he continued, warming to his story

as he saw the genuine interest on the faces of the boys, "even after the advent of faster, larger steamers, when the lanes of travels were shifted southward in order to avoid the normal limit of danger from the drifting icebergs, there was still considerable menace from the terrors of the sea.

"But of course one could never be absolutely sure just what the limit of danger was. Sometimes, after an exceptionally early start from the north, icebergs still blocked the paths of commerce. Everyone feared a calamity and—they got one, in the wreck of the 'Titanic.'

"It was after that that ship owners all over the world began to think of radio as a possible solution of the problem confronting them. If it had not been for the new science no one knows just how they would have met the situation. Possibly they might not have been able to meet it at all.

"But through radio they have now perfected a method by which the lives of ships passing through the danger zone during the iceberg season are practically insured."

"But how? Please tell us all about it," begged Bob.

"It sounds pretty interesting to me," added Jimmy, as he surreptitiously slipped a cake from his pocket and began to nibble it. Doughnuts and his sweets could not long be parted.

"It is interesting," agreed Dr. Dale. "To go deeply into the subject would take too much time. But I can sketch the idea for you.

"The work is done by Coast Guard cutters and consists of patrolling the iceberg zone. As soon as an iceberg is sighted the cutter ranges alongside it, carefully noting its drift and the rate of speed at which it is traveling.

"Then it sends out a wireless report to all vessels in the vicinity, telling the location of the iceberg and asking in return the exact location of the vessels.

"In that way ships sailing through the danger zone manage to steer clear of the iceberg or bergs and, by keeping in constant touch with the patrol boat, come through safely to clearer waters. It's a marvelous work and it is meeting with marvelous success. Another triumph of radio."

"Say," breathed Bob, "I bet the radio operators on those patrol boats are kept busy."

"Indeed they are," said the doctor, with his genial smile. "Especially as most of the ships are not content with the broadcasted information, but must constantly send in for special news. Some of them send in a message every little while inquiring if the coast is clear and what, under present conditions, is the best route to take from one point to another. Oh, yes, the operators are kept fairly busy, all right."

"It's a wonderful thing," said Bob thoughtfully. "There doesn't seem to be anything any more that radio isn't used for."

Owing to the urgent invitation of the boys, Dr. Dale consented to stay with them over night, saying, however, that he must positively leave the following afternoon as there were matters in Clintonia which he must attend to.

The boys were glad of even so short a visit and when the time came at last for their good friend to leave they were very sorry to see him go.

"Take care of yourselves, lads," said the doctor, as he started off. "And be careful not to start any forest fires around here. The Old First Church isn't hankering for any!"

The boys promised laughingly, and then, as trees hid the doctor from view, turned and entered the lodge again.

"Too bad he couldn't have stayed longer," said Herb. "He certainly is a good sport."

"And that was some tale he told us about radio and icebergs, wasn't it?" asked Joe, reflectively. "He's right when he says it's almost as interesting as the ranger service."

"Well," said Bob, with a grin, "when we get too hot fighting forest fires, we can cool of by fighting icebergs for a change."

"I imagine we'd cool off all right," agreed

Herb. "I bet it's mighty cold where those icebergs come from."

"You said it," agreed Jimmy, adding briskly: "But now, to get right down to business, when do we eat?"

Since it was then early in the afternoon and they had just finished lunch, the boys fell upon the unfortunate Doughnuts and pommeled him right properly.

"Good gracious, don't you ever think of anything but eating?" asked Herb. Then, seeing that Jimmy had taken refuge in the pantry, Herb yanked him out with scant ceremony. "If we left you in there loose," said the latter, by way of explanation, "there wouldn't be anything left for dinner."

"Come over here, fellows!" commanded Bob, a sudden queer sound in his voice. He was standing near the door and the boys went quickly to him.

"Look over there beyond those trees. Do you see smoke?"

CHAPTER XIII

WINNING THEIR SPURS

For a moment the Radio Boys stared in the direction of Bob's pointing finger. They could see nothing out of the ordinary. Yet, even while they told themselves this, the acrid smell of burning leaves and wood wafted to them.

Then suddenly Joe saw what Bob's still keener eyes had seen. A thin column of smoke, drifting lazily upward.

"Fire!" cried Herb, under his breath, and at the word the boys seemed suddenly stirred to action.

With one accord they dashed from the house and started running in the direction of the smoke. After a moment they realized that they were heading straight for the railroad tracks.

"Probably only a little barn fire," panted Bob, as the odor of burning wood became more pungent and they knew they were nearing the flames.

"Maybe they're burning the leaves on purpose," added Jimmy, but Herb grunted scornfully.

"It isn't being done—not at this time in the year. Guess again, Doughnuts, old boy."

Then they could see the flames through the trees and could hear the excited exclamations of people running back and forth. They redoubled their pace and in a moment more found themselves on the outskirts of the crowd.

Men and women, some swinging shovels, some brooms, others pails of water that slopped as they ran, jostled the boys as they elbowed their way to the front, anxious to see the extent of the fire.

A couple of women dropped the brooms they had been wildly waving, and Bob and Joe captured the weapons, approaching the blaze. At the same moment there was the sound of running footsteps behind them and in a moment more a dozen rangers broke through the crowd.

At sight of the lean, sun-burned men, the excited, hysterical men and women fell back, leaving the work of fighting the fire to the newcomers.

The grim faces of the rangers relaxed when they saw that the blaze was a small one and comparatively easy to control. Some fell to work with pick and shovel, digging a narrow ditch some twenty feet from the fire and back of it, while others turned streams of water upon the flames.

One of the men, recognizing the Radio Boys,

pushed shovels toward them and eagerly the boys fell to work. They were having their first experience of a forest fire, and although this was a small one, they meant to make the most of the experience, just the same.

It was a short fight, but a brisk one while it lasted. The fire had started near the railroad tracks, as the boys had at first supposed. And though several times, driven by a capricious breeze, the flames had darted away from the fire fighters and toward the tracks, they were not able to leap across the bared space to the trees on the other side.

Then suddenly, as though the elements had decided to come to the aid of the fire fighters, the wind died down, and the fire, already well in hand, gave up the struggle. Gradually the leaping flames subsided until there was nothing left but a wide bed of glowing embers.

The boys, thinking all danger past, rested from their labors, only to find that the rangers were still busy, beating out sinister, creeping ribbons of flame that wound snake-like through the underbrush.

As soon as one small thread was extinguished it seemed to the fascinated boys as though another sprang up. And always they seemed to come from nowhere—from the air above or the ground underneath.

"That's the worst of it," said a panting ranger, speaking to Bob as he leaned on his shovel. "You think you have the fire under your thumb, turn away, and before you know it, it's started all over again. It's uncanny how the spirit of the flames persists."

"I've noticed it," agreed Bob, adding suddenly: "There's another. Look out, it's almost under your feet."

Together they put out the snake-like creeping flame and then the ranger turned again to Bob. He wiped the sweat from his eyes with a grimy hand.

"There's more than one bad fire that has started just that way," he said. "Fire's out apparently, everything's peaceful and grand, people go home contented, even the rangers are satisfied there's nothing left to do. But in spite of that we stick around and the chances are ten to one that sooner or later that fire will start up again—some distance maybe from the original place—and if we hadn't been on the spot, there's no telling but what a million dollars' worth of good lumber would have gone up in smoke. Yes, sir, it's a great life if you don't weaken."

"Do you think this one's over?" asked Joe. He and the other boys had come up in time to hear the last part of the ranger's discourse. Now the latter grinned.

"Never can tell," he said, adding whimsically: "It doesn't pay to think in this business."

In spite of the ranger's pessimism, the fire did really prove to be over, and when the rangers themselves decided it was safe to leave the spot the boys turned back with them. Reluctantly they parted company with the rangers and slowly made their way toward the lodge.

"Gee, the fun was over too soon," mourned Herb. "That fire was only a teaser."

"I'd hate to think what it might have been, just the same, if the rangers hadn't shown up on the spot," said Bob, thoughtfully. "Suppose, for instance, the fire had started in a deserted part of the woodland where no one would have noticed it until it had gathered headway——"

"But someone would have noticed it," Joe broke in eagerly. "That's what the ranger service is for, especially the air patrol part of it."

"Of course," admitted Bob. "But even at that the chances are that it would have gathered considerable headway before even the airplanes caught on to the danger."

"Too bad it didn't," returned Herb flippantly. "Then we'd have had that much more fun. I'd like to see a real fire before we go back to Clintonia."

"I shouldn't wonder," said Bob, regarding his soot-blackened hands, "if one really big forest

fire cured your liking for them. I reckon they're not all fun. However," he added, with a laugh, "I guess there's not much danger of our being in on a regular blaze unless we start one ourselves."

"But did you notice," asked Jimmy, as they came within sight of the lodge, "how everybody else melted away when the rangers hove in view? The people around here certainly have some respect for those fellows, all right."

"I see," said Herb with a grin, "that Doughnuts has fully decided to be a forest ranger—when he grows up."

"Huh," grunted Jimmy, aggrieved. "Where do you get that stuff?"

The days following the fire at the railroad tracks were quiet, as far as any new fire scare was concerned, and the boys sallied into the woods in search of adventure.

They found many things of interest, but the most interesting of all to them was the discovery of the mouth of a cave some distance from the lodge where they were staying.

The cave could be reached by means of a narrow, tortuous path through the woods, the path so overgrown in spots with weeds and tangled underbrush that the boys were forced to mark trees and stones in order to find their way to the spot.

But the aggravating part of this discovery was that the mouth of the cave was not big enough to allow of their passing through it even though, by the throwing of the light from a flash into the black interior, they could see that, a little further along, there was ample room for them to stand almost upright.

Of course they thought of enlarging the mouth of the cave, for they became the prey of an insatiable curiosity to see what was inside this mysterious hole in the mountainside. But to do this was almost impossible. The mouth of the cave was flanked by heavy rocks and it would take many hours of work to remove these, if, indeed, the feat were possible at all. And they were too lazy—or perhaps not quite curious enough—to take the trouble.

However, they thought of the cave often and gradually it became surrounded, in their own minds at least, by an air of mystery.

Herb thought it might have been the retreat of smugglers in olden days, Jimmy had it a counterfeiters' den and Joe even went so far as to say that it might be in use now as a hiding place for contraband liquors. And so they got a great deal of fun from the discovery of the cave, even if they could not go any further in their explorations.

When they were not wandering about the

woods, they were either at the ranger station, hobnobbing with the good-natured fellows there and discussing radio with the red-headed operator, or they were at home in the lodge, sending out messages from their own radio set. They received messages also, for there was a broadcasting station not so far away but what they might catch an occasional concert and some of the talks.

They had set up their apparatus soon after arriving and not until they had the set "ready for business" did they begin to feel really "at home."

"Never lonesome these days—even in the backwoods!" cried Joe, as he joyfully clapped on a pair of head phones. "All you have to do is listen in on a concert or two to imagine you are back in dear old Clintonia again."

"Far be it from us to imagine any such thing," retorted Bob quickly, at which the boys had chuckled appreciatively. As a matter of fact, they were having far too good a time to wish themselves in Clintonia or anywhere but where they were.

Then one day, wandering in the woods, they came across their second great discovery. This was a quiet pool deep and still, surrounded by low-bending trees whose foliage fairly swept the placid surface of it.

The boys were quiet, lost in admiration of

the beauty of the scene, then suddenly Jimmy was struck by an idea.

"I bet you anything, fellows," he cried, his round face fairly radiating joy, "that there's as fine fishing in this pool as any you've ever seen. I'm going back for my tackle." And he had actually turned and headed back for the lodge before the boys fully grasped the meaning of what he was saying. Then, with a whoop, they followed him.

Luckily they had thought far enough to pack in their rods at the last moment and they knew exactly where to put their hands upon them. So it happened that they were back at that pool again in record time, equipped for fishing.

They caught fish too—numbers of them—beyond their wildest dreams, and they were just in the act of noisily proclaiming the proud Jimmy a hero when Bob's gaze, traveling upward, froze suddenly with horror.

"For the love of Pete, Doughnuts," he cried hoarsely, "don't move!"

CHAPTER XIV

THE CROUCHING WILDCAT

STARTLED by the tone of Bob's voice, the boys turned quickly, and Jimmy, disregarding his admonition not to move, screwed around till he could follow Bob's gaze. Then an answering look of horror crept into his eyes.

There, directly above him, crouching low on an overhanging branch of the tree, was an animal that looked like nothing so much as an overgrown house cat. But instinctively the boys knew that those ferocious yellow eyes and small stubby ears flattened close to a sleek furry head belonged to no tame animal. It was a bobcat, one of the most vicious of the wild animals.

How long the boys sat there, staring fascinated into the branches of that tree, they were never afterward able to say. But even while they sat there motionless their minds were working furiously.

They were unarmed. If the animal attacked them they would be helpless. Instinctively they knew that as long as they remained absolutely

quiet they had a chance of safety. The wildcat, puzzled by their stillness, would hesitate to spring. But if they moved——

Then suddenly Bob, as though released from the spell that held him, reached over ever so gently and his fingers closed on a stout stick that lay close to him. At the same moment his other hand grasped a heavy stone.

The other boys, guessing what he was about to do, followed his example, moving with the utmost caution. But, carefully as they moved, the slight action annoyed the crouching wildcat. His teeth showed in a wicked snarl and he crept nearer the end of the branch.

Then Bob, staking everything on sudden action, jumped to his feet, throwing the rock he held with all his force toward the huge cat and brandishing his stick wildly above his head.

The other boys followed suit, yelling like wild Indians and advancing fiercely upon their foe. It was a wild thing to do and there was only one chance in a hundred that the ruse would work. If the cat, infuriated by the attack, sprang upon them——

But no! Again that fierce growl, the flattened ears, muscles tensed for a spring——

But as the boys, shouting and waving their improvised weapons wildly, advanced bewilderment crept into the glaring yellow eyes of their an-

tagonist. He crouched lower, he snarled angrily, he seemed about to leap.

Then, very slowly, the big animal began to retreat, inch by inch, along the branch, his body almost touching the bark, his fur bristling angrily.

Elated at the prospect of triumph the boys sprang forward with yells that started echoes sounding and resounding through the forest.

With a sudden motion the wildcat bounded backward, landed on his feet in the underbrush and scurried away through the trees. The boys waited, weapons still raised, half expecting a return, but as the moments passed and the woodland was still save for the excited chattering of birds in the branches over their heads, they began to realize that what they had hoped for was true, the enemy had been finally and completely routed.

They turned and stared at each other with eyes in which laughter could not completely hide the shock of their experience.

"Well, what do you know about that?" asked Bob, regarding the stick which he still grasped. "Scared him off with a bit of stick. I bet if I'd tried to hit him the stick would have broken in two on his sleek back. Say, fellows, can you beat it?"

Then he began to laugh and the others joined him. They laughed till tears rolled down their

cheeks, and when at last they sobered down they felt a good deal better.

"That was some great idea of yours, Bob," said Joe admiringly, as he threw away his stick and stooped to pick up the day's catch. "I suppose the rest of us would just have sat tight like a bunch of boobs and let that bobcat tackle us."

"It was the craziest idea I ever had," returned Bob. "It was a long chance, but I guess it was about the only chance we had, at that."

"Whew," said Herb, as he thoughtfully wound up his line. "That was enough excitement to last me for a good long while."

"I didn't know there were bobcats around here," said Jimmy, wiping the perspiration from his round face.

"I guess there are all sorts of wild animals in the forest," replied Joe, adding with a grin: "I guess maybe we'd better get down one of those guns from the wall of the lodge and load it with buckshot. Looks as if we might need it."

"Well, I guess we'll not want to do any more fishing to-day, shall we?" asked Jimmy, looking around him rather anxiously. "We've got a pretty good haul anyway."

"Plenty for dinner," said Bob. "And just now nothing would suit me better than to go home and cook 'em."

This feeling was heartily shared by the boys,

and it did not take them long to gather up their bait and reels and start away from the pool.

Although, by tacit consent, they did not mention their hair-raising experience on that tramp through the woods, it was easy to tell by the way they continually glanced this way and that into the shadows of the forest what was uppermost in their minds.

Of course they had been told there were wild animals on Spruce Mountain, but somehow they had not taken the information very seriously. But since the incident of the afternoon, an incident that might have ended in tragedy, they decided to be more cautious.

"I'm glad we met one, anyway," said Herb, as, later that night, they prepared for bed.

"Met what?" yawned Jimmy, who, after the day's exertions, was very weary.

"The bobcat, bonehead," retorted Herb, unflatteringly. "What did you think I was talking about—the fish?"

"Well," said Joe, reflectively, "I've seen plenty of pictures of wildcats, but as far as I'm concerned I'm perfectly willing to take the pictures' word for it."

"Same here," put in Bob, grinning. "They aren't particularly playful little animals to have around."

At that moment Jimmy sank upon his cot with a sigh of abject relief.

"Whew!" he ejaculated, "there aren't any springs worth mentioning on this downy bed but it sure feels good to me, just the same."

"Doughnuts wants a spring like the one the fellow had I was reading about the other day," said Bob.

"What kind is that?" asked Jimmy, through a prodigious yawn.

"Why, this fellow," chuckled Bob, stretching himself out on his own cot and staring up at the ceiling, "thought up the wonderful idea of using his springs for an aerial."

The boys gasped at him.

"Now I know you're fooling," Herb told him, incredulously.

"Fooling, nothing!" replied Bob. "I never was more serious in my life."

"You've got to prove it to us," said Joe, as he carefully extracted a fish hook that was on the point of entering his thumb. "Sounds kind of phony to me, Bob."

"Not at all," said Bob, still seeming very much amused about something. "It's really the simplest thing in the world when you've once thought of it.

"This fellow doesn't even use an antenna—

not the towering, outside kind, that is. He merely attaches the antenna lead to the springs of his iron bed——"

"How does he make his ground connection then?" asked Joe, still incredulous, while Herb and Jimmy regarded Bob with interest. "Tell me that, then."

"Easiest thing in the world," retorted Bob. "He makes the ground connection by means of a water pipe and a radiator in his own quarters."

Herb whistled.

"Pretty slick—that," he said admiringly. "Has music to sing him to sleep and everything."

"But what kind of an outfit has he?" asked Joe, always anxious for technical information.

"It's a single circuit, regenerative design," explained Bob. "It has two variometers, a detector tube, two condensers and one-stage of audio-amplification from two 'B' batteries. Very simple apparatus when you know about it."

"Well, that boy was surely original!" exclaimed Herb. "I wouldn't mind having a set like that myself."

"It would be easy enough to make," said Joe, his mind already busy with circuits and condensers and variometers. "And when it was finished you'd have something that not everybody else has, anyway."

"I'm for it, strong," said Jimmy, turning over

in an effort to find the softest spot in the bed. "And not only for the sake of the music, either. Just think how nice it would be to go to sleep on some real springs. I love music—but oh, you comfort!"

"Oh, go to sleep before I put you there!" commanded Herb, raising a shoe threateningly.

CHAPTER XV

AN UNDERGROUND MYSTERY

"SAY, have you fellows heard about that new vacuum tube?" asked Joe, as the boys were tinkering with their set a day or so after the incident of the wildcat.

"What about it?" the others asked, with interest.

"They say it's the most powerful tube in the world," Joe continued enthusiastically. "Think of it—this tube is capable of supplying a hundred kilowatts of oscillating high frequency energy to an antenna."

"Must be some hefty tube," remarked Bob, rather absently. He was trying to tune in on a station some distance away and there was considerable interference.

"No, that's just the beauty of it," said Joe, still on the subject of this wonder tube. "It's small. Only weighs ten pounds."

"I suppose that will have a big effect upon radio in general," said Herb.

"I'll say so," Joe returned. "Why, they say

that two of these tubes operated in parallel would do the work of a million dollars' worth of machinery in transatlantic communication."

"Some tube, all right," said Jimmy. "I bet it will bring the inventor some hard cash, too."

"He deserves it," declared Joe. "Anyone who has brains enough to invent a thing like that ought to be a millionaire."

"Probably will be, too, before he gets through," remarked Bob.

Jimmy sighed.

"Oh, for a few brains!" he murmured and Herb grinned happily.

"You said something that time, old timer," he assured the despondent Jimmy.

However, they wearied even of their radio sets after awhile and decided to take a tramp in the woods, "just to pick up an appetite for dinner."

"Here's hoping we don't pick up a wildcat or two for good measure," said Joe.

"Oh, I don't know," replied Jimmy nonchalantly. "I've heard wildcat steaks are very good eating."

"So are bear steaks," retorted Joe. "But I'm not particularly anxious to meet the bear."

"Let's go over to the ranger station," suggested Bob, "and see if there's any news. Then we might go around and see if our cave is still there."

The boys agreed, and a moment later they were being greeted pleasantly by Mr. Bentley and one or two others. There had been no fires of any account reported, the rangers assured them, and smiled when the boys looked disappointed.

As usual, they stayed at the station longer than they had expected to and when they came out they decided it was too late to go around to their cave that afternoon.

"We'll make a good early start in the morning and spend the day," decided Bob. "We can take some canned beans and rolls along so Doughnuts won't starve to death."

"That reminds me that we'd better go around by way of the crossroads," said Herb. "Doughnuts ate up the last bit of jam last night, and if we're going on a picnic we've got to have jam."

The boys agreed on the necessity, and so started to detour through the woods in the direction of the little crossroads country store, where a few things, they had discovered, could be bought.

But they were destined not to reach the store that afternoon. They had never gone straight from the ranger station to the place, and so the country through which they were passing was new to them.

They knew there was no possibility of their becoming lost, however, for Mr. Bentley told

them that if they followed straight along the path they were now on they would come out right at the crossroads.

However, the way was long and as they had been climbing steadily they finally sat down on the crest of a low mountain to regain their breath and look at the scenery.

It was then that Joe discovered, half-way down the mountainside, a curious gaping hole, half concealed by intertwining underbrush.

"Look!" he said. "That looks like a fair-sized cave to me."

"Let's go and have a closer look at it," said Bob, curiously. "It's probably just a hole, but there may be something interesting about it."

Jimmy protested, for his short legs were weary, but Herb yanked him to his feet and gave him a shove in the direction of the cave. Jimmy had not been any too securely balanced in the first place, and Herb's shove had the effect of lifting him completely from his feet. He fell, landed on his side and rolled down the steep side of the mountain, turning over and over and grasping wildly at roots and stones in his path.

So suddenly had it happened that for a moment the other boys only stared. Then, as poor Jimmy went on rolling and finally disappeared in the gaping mouth of the cave they gathered

their wits and made after him. Smothering their mirth, they half slid, half fell, down the mountain side.

The ground was rough and stony and they were afraid that Jimmy might be really hurt. Their fears were set at rest, however, when, upon peering into the dark cavern, they found that Jimmy had regained his feet and was glaring with a mixture of sheepishness and rage at Herb.

"You big stiff!" he said, carefully feeling over his pudgy form to make sure there were no bones broken, "next time you feel like shoving a fellow, just look who you're shoving, will you? I suppose you think this was fun."

"It was—for us," retorted Herb, relieved to find he had not seriously hurt his fat chum. "Stop glaring at me, Doughnuts," he added placatingly. "I didn't mean to shove so hard, honest I didn't."

"Well," said Jimmy, somewhat mollified, "I suppose I'll have to take your word for it. Only don't let it happen again, that's all."

"And now that we're here," said Bob, gazing about him with lively interest at the walls of the cave into which they had literally stumbled, "what do you say we look around a bit?"

"You bet," agreed Joe, feeling in his pockets for matches. "From the looks of things, if we're going to do much exploring we'll need plenty of light."

"I've got a new box of matches myself," said Herb. "Any of the rest of you fellows got any?"

It appeared that they all had, and Bob, feeling about on the floor of the cave, found a stick that would serve them admirably as a torch.

This he lighted with one of the precious matches and held it over his head in an attempt to pierce the dark corners of the place.

"Probably ends a few feet farther on," said Herb, as they carefully made their way forward, groping along the damp walls of the cave. "You go ahead with your light, Bob, and lead the way. It's as dark as pitch in this hole."

But, contrary to Herb's prediction, the cave did not end a few feet further on. As a matter of fact, it seemed to widen as they went forward and the boys began to feel a growing excitement.

"This is getting good," chortled Bob, then stopped short as by the light of his torch he discovered something new. "Say, fellows," he cried, in an excited voice, "here's a tunnel—and, yes, there's one on the other side."

"Better and better!" exulted Herb. "Which one of the tunnels shall we explore first?"

"Why not take both?" asked Jimmy, who had completely recovered from his ignominious tumble. "Two of us can go down one of them and the other two can take the other."

"Nothing doing," said Bob, firmly. "We're

going to stick together on this jaunt. We don't want to take any chances of our matches giving out and being left in the dark—not if I know it!"

When Bob spoke in this tone the other boys generally did as he said. And this time was no exception. They tossed coins to determine which of the diverging tunnels they would follow. This proved to be the one to the right of them.

"This piece of stick is burning out," said Bob, as they turned down the dark passage. "Feel around and see if you can get any more, will you, fellows? If we depend on matches they will be all burnt out before we've seen half we want to see."

They felt about the floor of the cave, which was damp and clammy to the touch, and finally produced a couple of sticks which might be made to do. These last were damp and rotten, but Bob finally succeeded in lighting one.

"We'll have to work fast, fellows," he told them. "This isn't going to last long."

And so they went ahead in real earnest, thrilled and fascinated by the discovery that there was not one tunnel, or two, in this remarkable cave, but a whole network of them, leading bewilderingly one into another.

In their excitement the Radio Boys temporarily forgot that it was much easier to get in than it

would be to find their way out again. All that seemed to matter at the time was to find to what point these fascinating tunnels led. They had been using up matches at an appalling rate of speed.

Then suddenly the torch in Bob's hand flickered and went out.

"More matches," he called impatiently. "Herb, it's your turn."

A minute of dead silence while Herb fumbled wildly in his pockets. Then faintly through the pitch blackness his voice came to them.

"I—haven't any. I must have lost them."

CHAPTER XVI

SWALLOWED UP BY THE DARKNESS

At first the full measure of the calamity did not come home to the boys. It was irritating, of course, to find themselves in the dark with no possible way of making a light. The blackness was so intense that they could not even see a hand before the face.

Herb turned, stumbled over something and almost lost his balance.

"Confound this dark," he grumbled. "I could have sworn I had those matches."

"Feel in your pockets, fellows," commanded Bob sharply. Perhaps more than any of the other boys he realized the seriousness of their predicament. "Without a light we're going to have a hard time getting out of here."

But, feel as they would in every pocket they possessed, the boys were at last obliged to confess that they had not a match among them.

"Oh, we can remember the way back, all right," said Herb, assuming a confidence he was very far

from feeling. "All we have to do is follow this wall till we come to the end of it."

"Yes," said Bob with a touch of irony in his voice. "Then what?"

"Then we turn to the right—or was it the left?" faltered Herb, and Bob laughed.

"That's just what I'd like to know," he said, then went on, with sudden resolution in his tone: "There's no use dodging the fact, fellows, that we're in a pretty tight fix. If we get out of this black hole all right it will be more luck than anything else. However, the sooner we start trying the better."

"If we go slowly and try to remember the way we came in, we'll be all right," said Joe. "I think I know the direction. Come on, follow me, fellows, and we all may be happy yet."

They turned and slowly felt their way back along the damp earthy walls of the tunnel. They came to the end of it and then, following Joe's advice, turned to the left.

Along this passageway they carefully felt their way, and, once more coming to the end of it, this time turned to the right. This was the way, Joe was confident, that they had come. All they needed to do was to follow their noses and they could not fail but be all right.

Poor Joe! His confidence was short-lived. For, when they came to the end of this passage-

way, instead of seeing before them daylight from the mouth of the cave, there was still that maddening pitch blackness.

They stood irresolute, without the slightest idea which way to turn next.

"This is what I call rotten luck!" groaned Jimmy. "Here I am starving to death and we may not be able to get out of this place for another hour."

"Humph," put in Bob grimly. "We'll be mighty lucky if we get out at all. It would be hard enough to find our way around with a light, but now——"

"Say, wouldn't you think we'd have had more sense?" growled Herb. "I've got a good ball of cord in my pocket and we could easily have attached that to something outside the cave. Then finding our way out would have been a cinch."

"No use crying over spilled milk," observed Joe. "It won't help us get out. How about it, Bob? Got any ideas?"

"Not one," admitted Bob. "As far as I can see we're lost good and plenty."

Jimmy groaned again.

"That's cheerful," he said. "When all a fellow can think of is a plate of pork and beans with——"

"Say, cut it out, can't you?" interrupted Herb.

"Isn't it enough to know we're going to starve to death without your making it worse with your pork and beans?"

"Starve, nothing!" Bob broke in. "Where do you get that stuff, anyway? We're going to get out of this place if it takes all night to do it. Come on, let's go."

"Where to?"

"Nobody knows," retorted Bob. "But anything's better than standing still groaning about our luck."

They started on again, groping their way along, the dank smell of earth and decaying wood in their nostrils and the black curtain of darkness before their eyes. It was no use. Every way they turned they were met with defeat.

"Might as well sit down and accept our awful fate," said Herb dolefully. "I've barked more shins than I knew I had, and all for nothing——"

"Hey, you back there, come and see what I've found!"

It was Bob's voice coming to them from a considerable distance up the tunnel. There was a ring of joyful elation in it that sent them stumbling frantically toward him.

"For the love of Pete, Bob!" yelled Joe, "what have you got?"

"A way out," returned Bob, and, coming closer,

the others could see before them the faint gray of twilight where Bob had pushed aside some intervening branches.

The boys pushed forward, stumbling over one another in their excitement.

"It's a hole, all right," said Herb. "But do you think it's big enough for us to get through?"

"We'll get through it all right," said Bob, grimly. "Do you suppose we're going to get this near to the good old out-of-doors without going the rest of the way? Watch me!"

He began digging with his hands at the earth about the hole and the boys eagerly followed suit. But it did not take them long to realize that any attempt to enlarge the hole was hopeless. Beneath the loose earth was a solid foundation of rock.

They sat back on their heels, gazing at one another helplessly. Suddenly Bob spoke excitedly.

"Do you know what I think?" he said. "I'll bet just about anything I own that this hole is the entrance to the cave that we've been wondering about so much."

"I bet you're right!" agreed Joe. "It's just about the size and everything——"

"Well, all I have to say is," interrupted Herb, "that if that's the case, our prospects of getting out of here aren't very hopeful. We've been trying for a long while to get in this hole and

couldn't. So I must say, I don't see how we're going to get out."

"Sounds reasonable enough," admitted Bob. "Only I have a pretty good idea we're going to get out some way. You never know what you can do till you're desperate."

"Go to it," remarked Herb pessimistically. "As for me, I think I'll go back and see if I can't find some other way out."

"Better stay where you are," advised Bob, as he took off his coat and thrust it through the hole. "Now I'll make myself as small as possible and see what happens."

He lay down on his side and, with his arms pushed as close to his sides as possible, stuck his head through the hole and then pushed gently with his feet.

You would have said it was impossible for Bob to get through that narrow opening. The boys still thought it was. Yet, in another moment they had to change their minds. As Bob had said, "you never know what you can do till you're desperate."

Once it seemed, so tight was he wedged, that Bob would be doomed to spend the rest of his life there, but by a tremendous effort he finally managed to push himself the rest of the way. Then, panting and triumphant, he stood up on the other side of that hole, free.

"Well, what Bob can do, I can too," said Joe. "Let's go."

He managed the feat and Herb after him, each one loosening some dirt and small stones as he wriggled his way through. It was harder for Jimmy, but by strenuous pulling they finally managed to rescue him also.

"Say," cried Bob, drawing in deep breaths of the cool evening air, "make believe it doesn't smell good out here!"

CHAPTER XVII

AN OLD ENEMY

THEY were starting back along the familiar path to the lodge when they were surprised by the sound of angry voices coming from the direction of the road just beyond.

One of the voices seemed familiar to them and by common consent they turned and retraced their steps. For the voice, improbable as it seemed, had sounded like Buck Looker's!

As they came out into the open they saw through the gathering dusk the indistinct outlines of a motor car. At first they could not distinguish the owners of the voices raised in altercation, but in a moment more they saw the reason for this.

As they watched they saw someone crawl from underneath the car while another came around from the further side of the machine. Even in the indistinct light the boys recognized the two distinctly. They were Buck Looker and Carl Lutz!

The latter were so busy quarreling that they

did not at once notice the boys. Buck was blaming Carl in no uncertain tones with something that had happened to the car.

"Thought you said you knew how to drive!" Buck snarled. "Do you think I'd have risked my neck with a fool like you, if you hadn't said——"

"Oh, cut it out, can't you?" Lutz interrupted sullenly. "I can't help it if the car's a piece of old junk. The best chauffeur going couldn't run her two miles without trouble."

"I suppose you think that let's you out," sneered Buck. "Make excuses and blame it all on the car——" He paused, mouth open, eyes staring. He had seen the Radio Boys.

"Well, look who's here!" he said, his mouth stretching in a sneering grin. "Hello, fellows. Can't we give you a lift wherever you're going? You look," with a glance that took in their earth-grimed clothes, "as if you'd been in a fight."

"No," said Bob, with a misleading gentleness. "We haven't been—yet."

"Well, we're not looking for any, if that's what you mean," sneered Buck, but the boys noticed with a grin that he climbed quickly into the automobile. "We'd hate to wipe up the ground with fellows like you."

The boys started forward, fists clenched, but Carl Lutz had jumped into the driver's seat and started the engine. As the boys sprang forward,

the car moved up the road—at first slowly, but gathering speed quickly.

Buck waved a hand to them.

"So long," he called. "See you again maybe before long."

"If you do," said Bob, under his breath, "it won't be lucky for you."

"Well, what do you think of that?" breathed Herb, as the Radio Boys once more started for the lodge. "Who would ever have thought we'd have the bad luck to see Buck up here?"

"That fellow," remarked Jimmy, puffing as he tried to keep up with the longer strides of the other boys, "is a bad penny. He's always turning up just when you least expect him."

"I wonder," said Bob reflectively, "if he can be spending his vacation up here too."

"Looks like it," admitted Joe, with a scowl. "Tough luck for us, I'll tell the world."

"Oh, I don't know," said Bob, cheerfully. "I have a notion Buck and Carl, too, will keep pretty well out of our way. They aren't anxious to mix it up with us any."

"No. But they're sure to try to make it unpleasant for us some way or other," insisted Herb. "You know how they are. They'll do any sort of mean trick as long as there isn't too much danger of their getting a black eye out of it."

"We'll have to take our chance on that," said Bob, with a grin, adding: "But, somehow, after being lost in that cave, Buck doesn't bother me a bit. Let him do his worst. He'll get a good deal better than he gives!"

Nevertheless, in the days that followed the boys thought a great deal about their meeting with the two cronies, and they made all sorts of inquiries in order to find out where the boys were staying.

Finally they found someone, a friend of Mr. Bentley's, who knew them, though, as he admitted with a frown, he knew no good of them. This gentleman, Mr. Watson by name, said that Buck and Carl Lutz were staying at a fashionable bungalow three or four miles from the ranger station.

"If you'll take my advice," he said to the Radio Boys, the frown still lingering, "you'll give those lads a wide berth. They're no good. I'd hate to see a boy of mine having anything to do with them."

"You needn't worry about our giving them a wide berth, Mr. Watson," said Bob, adding with a grin: "That's the best thing we do!"

In the days that followed the boys saw nothing of Buck and his friend and gradually forgot all about them. As long as they kept out of sight, that was all that could be asked of them.

After their adventure in the mysterious mountain cave, the boys found it hard to keep away from the spot. They went there every day or so and soon came to know the various tunnels and passages in the cavern so well that they could almost have found their way about in the dark.

Of course at first they were extremely cautious, for they were not particularly anxious to repeat their first experience. They made use of Herb's ball of cord, attaching one end of the cord to a tree trunk outside the cave and holding the ball, unwinding it as they felt their way along.

It was a fascinating place with its passages, its strange, suddenly-widened chambers where they might stand upright and rest their cramped backs.

And the more they saw of the place, the more convinced did they become that at some time or other the cave had really been the refuge of outlaws, who brought their booty there—desperate criminals perhaps.

Then, one day, they came upon something that Herb declared was positive proof of this belief.

At the end of one of the tunnels which they had not explored before they came upon an apartment where were several evidences of former habitation. There were bits of broken crockery, a rusted hammer, the remains of a rudely constructed chair and a worm-eaten table. And in the far corner, so encrusted with dirt and mold

that it seemed like part of the earth itself, Herb triumphantly discovered an old burlap bag.

"I bet," he said, his eyes shining, "that this thing has held gold and silver, jewels maybe!"

"Huh!" said Joe skeptically, "you'll be finding the treasure next. You can't tell anything by an empty bag."

"No," retorted Herb indignantly, "and you can't tell anything by the rest of the stuff we've found here, the hammer, for instance, and the broken dishes, but you can imagine things just the same."

"Someone used this place to hide in, that one thing's sure," said Bob. "But there hasn't been anyone here recently. Whoever our friends were, they probably died a couple of hundred years ago."

But in spite of the chaffing it remained a fact that from that day of this last discovery the boys found the lure of the cave irresistible. They spent hours there, imagining all sorts of romantic happenings in the past and bemoaning the fact that nothing exciting ever happened to them.

"Here it is getting near time for us to go home again, and never a real fire yet," complained Herb. "That's what I call a mean trick."

For, although they visited the rangers every day, the latter reported everything quiet without

ever a spark on the horizon and the boys began to think that the fire they had helped to quell at the railroad tracks was the only one they were destined to take part in that summer.

They had had excellent weather all along, warm, sunshiny days when the out-of-doors called to them and the only time they wanted to stay indoors at all was when the spirit moved them to work on their radio set.

But now the weather changed suddenly. One morning the boys woke to find the sky leaden and overcast. There was the feel of rain in the air and a chill breeze was blowing.

"Won't be very cheerful around the cave to-day," said Bob, as he stood in the doorway of the lodge, looking up at the lowering sky. "Guess we'd better stick around this cabin. I want to experiment a bit with the transmitter, anyway."

"Well, I don't know about the rest of you," said Jimmy, coming to join Bob in the doorway. "But I'm going down to the crossroads. A bit of rain won't hurt!"

"Of course not," said Joe, adding with a wicked grin: "Rose says there's nothing better than rain for the complexion."

"Say!" retorted Jimmy, aggrieved, "who said I was worrying about my complexion, I'd like to know. You fellows make me sick!"

"It's doughnuts he's after," volunteered Herb. "I looked in the doughnut jar last night and there wasn't one left."

"Good-by, I'm going!" said Jimmy, and without another word started off in the direction of the general store at the crossroads, followed by the good-natured hoots of his comrades.

"Doughnuts will die of indigestion yet," prophesied Herb, with a doleful shake of his head, "Come on, fellows, let's listen in on something. We haven't heard a good concert for days."

For the time Jimmy and his doughnuts were forgotten. The three boys, absorbed in their beloved radio, forgot time and place.

But finally, finding that static was interfering annoyingly, they stopped to make some unflattering comments on it and Bob, happening to look at his watch, suddenly made the discovery that Jimmy had been gone for almost three hours. At almost the same minute he became conscious of the furious wind that whistled and moaned about the lodge. There was no rain—only that terrific wind.

"Whew," said Joe, going over to the window, "no wonder the old set isn't working well. This looks like a regular storm, fellows."

"And Doughnuts has been gone nearly three hours," said Bob anxiously. "I wonder what can be keeping him?"

They went over to the door, which had long since blown shut, and Herb turned the knob. The door flung inward with such violence that it nearly knocked him from his feet. It took the combined force of the three boys to push it to again.

"A regular hurricane," gasped Joe. "Takes your breath away. Say, fellows, I wish Doughnuts were back."

And when another twenty minutes had passed and still no sign of Jimmy, the boys put on their coats, pulled their caps down over their eyes and started out to search for him. They knew the path he would take and they started down it, the wind behind them fairly lifting them along.

"Coming back, we'll have to face this wind," shouted Herb.

A ripping, rending noise! A sound as though the earth itself were being torn asunder! With a terrific crash a giant monarch of the forest fell across their path!

CHAPTER XVIII

PINNED DOWN

So DIRECTLY in their path was the felled giant of the forest that the boys stumbled among its outstretched branches before they could stop their onward rush.

Then they pulled their caps still closer over their eyes, circled around the tree and found the path again. They knew just how close they had been to death, and yet their thoughts at that moment were not of themselves. They were thinking of Jimmy, wondering if, perhaps, some such accident as had happened to them had overtaken their chum. Was that what had delayed him? They shuddered and ran faster.

The wind, fierce as it had been before, seemed momentarily to increase in violence. Trees moaned beneath the force of it, sweeping their tortured branches earthward. Again and again came that tearing, rending sound that meant the downfall of another forest giant.

Urged on now by a horrible fear for Jimmy's safety, the boys climbed over jagged stumps,

fought their way through clinging branches, keeping the while a sharp lookout to right and left of them. Several times they stopped and shouted, but the wind viciously whipped the sound from their lips and they had the nightmare feeling that they were making no noise at all.

Then, in a sudden deep lull in the storm, they heard it. Faintly it came to them—a cry for help—smothered the next minute by the fury of the wind.

But it was enough for the boys. That had been Jimmy's voice, and with a wild shout they turned in the direction from which it had come.

They found him, lying on his side, the branches of a great tree pinning him to the earth. There was perspiration on his face, either from pain or his desperate struggles to get free. His chums did not know which, and they spent little time trying to find out.

Down on their knees they went, shouting encouragement to Jimmy while they tried to lift the heavy branches from him. It was all they could do with their combined strength to lift the limb which pinned their comrade to the ground, but they managed it at last. The heavier weight removed, it took them but a few minutes to cut off the rest of the branches.

Then Jimmy was free! But he made no effort to rise. Bob knelt beside him anxiously.

"Are you much hurt, old man?" he asked, putting an arm gently beneath the lad's shoulders. "Do you think you can get up?"

"I guess so," said Jimmy, struggling to a sitting position. He grimaced with pain and rubbed an ankle gingerly. "I feel kind of numb and queer."

"Humph, I should think you would, after all that," returned Herb, adding with, for him, unusual gentleness: "How about it, Doughnuts? Think there are any bones broken?"

Jimmy shook his head, and, with Bob's assistance, struggled gamely to his feet. There was the exquisite torture of returning circulation in his feet. He felt as though he were standing on a bed of needles with all the sharp points turned upward. He bit his lips to keep back a groan.

The boys regarded him anxiously while Bob felt him carefully all over to make sure there were no broken bones.

"I'm all right, I guess," said Jimmy, his round face becoming more cheerful as the pain in his feet subsided. "Got plenty of bruises I guess, but I don't mind them."

With intense relief the boys realized that what he said was true. It had been a miracle that he should have escaped with only a few scratches and bruises to tell the story. As it was, if the falling tree had caught him just a little bit sooner

—but resolutely they turned away from that thought.

As soon as Jimmy found that he could hobble along, they turned and began the stiff fight back to the lodge. And it was a fight, every inch of the way.

The wind seemed like a human enemy against whom they had to exert every ounce of their strength. It wrestled them, buffeted them, snatched at their breath, at times sent them reeling against the trunk of a tree.

The journey was made still harder for them because of the weakened condition of Jimmy. Although he had not been seriously hurt, the shock of his experience had been terrific. Toward the end the boys fairly had to carry him along.

When they finally came within sight of the lodge they saw a sight that made their hearts jump wildly. Half a dozen rangers were running through the woods, armed with shovels and wet sacks.

As the boys stared, two of them turned and started for the door of the lodge. Bob rushed forward, shouting to them. It was then he saw that one of the men was Mr. Bentley.

"Let's get inside," he snapped at Bob. "We can't talk in this wind."

Swiftly Bob drew the key from his pocket and fitted it in the lock. The door flew open and

the wind fairly swept them inside. With an effort Bob got the door shut, turned and faced the men.

"A fire over on the ridge," said Mr. Bentley, curtly. His face was drawn and there were grim lines about his mouth. "Can you boys send out some radio messages for us?"

"Watch us!" cried Bob, turning to the instrument. "Where to?"

"Villages in the district," replied Mr. Bentley. He had already turned toward the door. "Ashley and Dawnville are in the path of the fire. Our wireless will be busy directing the fight. After warning the villages, send out calls for help in all directions. We'll need men, men and more men!"

"Is it so bad, then?" asked Herb, his eyes gleaming.

Mr. Bentley did not answer except by a nod of the head. But the lines about his mouth had deepened.

Then the door slammed to after the men, and the boys turned feverishly to the instrument. Static put up a fight, but they finally managed to get Ashley, then Dawnville.

"Perry is just a little way further on," suggested Joe. "Better get them too, Bob."

Bob got Perry and then started broadcasting the call for men, men and more men. And when they were satisfied they had done all they could do with the radio, the boys pulled on jackets and

hats and hurried to swell the numbers of the defenders.

Jimmy who, in his excitement, had forgotten what had happened to him, went with them. To Bob's suggestion that he stay at the lodge for a while and join them later, he stubbornly refused to listen.

"Think you're going to do me out of this, do you?" he cried. "Well, I guess not! If anybody stays at home, it isn't going to be me."

The boys had no time to argue with him, if they had wanted to. They knew that in a terrific wind such as this a forest fire can become a hideous thing, burning up whole tracts of valuable lumber, sweeping down upon villages and leaving terror and destruction in its wake.

Mr. Bentley had said that they needed men, men and more men. And they knew that what he had said was nothing to what he had left unsaid. Hardened veteran as he was of many forest fires, a blaze such as this promised to be would try even his tested courage. Well, they'd show him what Radio Boys could do!

They paused for a moment outside the lodge to get their bearings. No need to ask in which direction the blaze was now. No longer need to hunt for evidences of the terror. For plainly visible now was the curtain of red, broken and torn by darting tongues of flame that shot

heavenward, painting a dull reflection on the sky.

They could hear the hoarse shouts of the men who risked their lives in battle with the terrible enemy, the crackling of burning trees, could smell the pungent acrid smell of burning wood.

"Come on, fellows!" cried Herb excitedly. "We don't have to ask the way, do we?"

"Couldn't miss it," shouted Joe, giving the gasping Jimmy a lift over the tangled branches of a fallen tree.

"Look out for that hole, fellows," warned Bob, for, with their eyes upon that wavering, changing curtain of red, the boys had come very near pitching headlong into a hole made by the torn-up roots of a tree. "Wouldn't do to break a leg just now."

It was deceitful—that fire line. It had seemed just ahead of them, but, although they ran as fast as they could, it seemed always to be just as far ahead of them.

"Maybe it's going the other way," panted Jimmy, his lungs feeling as though they would burst.

"Couldn't," Bob shouted back. "The wind's blowing right toward us. I think it's just the other side of the hill."

For a long time they had been climbing steadily, and as they neared the top of the hill they

seemed at last to be approaching the fire. Or was it approaching them? With that wind——

The shouts of the fire fighters were growing plainer now. Groups of men, gesticulating excitedly and carrying shovels and sodden sacks, brushed past them.

The boys ran with them, beside themselves with feverish excitement. They reached the top of the hill. Down below them, writhed and twisted and fought the grinning demon of fire!

CHAPTER XIX

FIRE

EVERYWHERE men were working, driving themselves and others mercilessly. A hundred yards back of the fire some were digging a ditch while others hacked madly with hatchets at outstretching branches of trees.

Close to the fire line men fought grimly, resolutely beating at creeping tendrils of flame with the wet sacks, eyes bloodshot and wild in blackened faces, burned hands returning again and again to the attack.

Reinforcements were continually arriving, as well as fresh sacks and shovels from the ranger station. The Radio Boys, arming themselves with some of these, made their way as close as possible to the fire line.

One man, whose hands had been very seriously burned and who still refused to leave his post was carried off by two of his comrades, shouting and protesting wildly. The boys filled in the gap.

The smoke stung their eyes torturingly, flying particles of burning wood and leaves seared their

flesh and the sweat poured from them. They only worked the harder.

"It's this danged wind!" groaned a man next to them, stopping for a moment to wipe his tear-filled, smarting eyes on the sleeve of his shirt. "If it'd stop we might have a chance——" He paused, sniffed the air inquiringly while the expression of his face slowly changed. "Well, I'll be hanged!" he said softly. "If it ain't!"

It was then the boys noticed what in the fever of the fight they had overlooked, that the wind seemed indeed to have blown itself out. At least there was a lull.

The flames which, driven by the gale, had bent and writhed and twisted toward them, now darted straight upward.

"If we can keep it from reaching the gully," the man beside them continued, "there's a chance we can beat it."

"What gully?" asked Bob, dashing the sweat from his eyes so he might see more plainly. "What do you mean?"

The man jerked a grimy thumb over his shoulder.

"Over there, son," he said, as he fell to work with redoubled energy, "there's a narrow little gully between the two mountains. If the fire reaches that there will be no stopping it. There's a wind that sweeps through that place that will

carry the flames ahead faster than we can beat 'em out. That means the blaze will have us surrounded."

Surrounded! The phrase repeated itself over and over in the thoughts of the boys as they were gradually forced backward and upward by the advance of the flames.

True, the wind had stopped, but the fire had gained such tremendous headway that even now it would require all their energy to defeat it. But could they defeat it? That was the question.

Surrounded! Why, that meant—but it was impossible! They must concentrate all their force, all their men at the mouth of that gully. The fire must be checked.

Bob, starting back for a fresh sack, looked upward, and there, hovering directly over his head, was a sight that thrilled him.

Like two great birds with outstretched wings hovering over the scene of terror were the airplanes, the "eyes" of the Government rangers.

Bob well knew that the men up there were keeping the ether humming with reports, messages, orders, between the station and the ships themselves.

What was Payne Bentley thinking up there? Did he see victory or did he fear defeat? Did he, like the ranger who had worked beside him, see the danger in that narrow gully?

He did not have to wait long for an answer to that. As he took a wet sack and threw his dry, scorched one upon the ground he saw that men were being rushed to one point and that point the outermost edge of the blaze where it reached hungry fingers toward the gully. Bob gazed up, almost in awe, at the hovering planes.

"He'll do it," he exulted. "He'll beat that blaze if anybody can."

It did not take Bob very long to see that he had exulted too soon. Despite the heroic efforts of the men who fought to stem the tide of destruction, the fire crept steadily, relentlessly forward, forcing the workers foot by foot, inch by inch back toward the gully.

Side by side with the men, never faltering, though their lungs felt near to bursting and their smarting eyes tormented them, fought the Radio Boys.

Only once did Jimmy, naturally feeling the strain of it more than the other boys, fall back to get his breath. But not five minutes had passed before he was with them again, gallantly taking up the task where he had left it.

And all for nothing! The fire, feeding on the dry and crackling timber made brittle by weeks of drought, rushed onward like a destroying fiend, seeming to gather headway as it came.

Faster and faster the men retreated before it,

back, back, back to the last line of retreat—a deep trench dug at the very mouth of the gully. If they were driven past that——

And they were driven past it, fighting for the last inch, gasping, struggling, sweating—down in the trench—on the other side—hacking frantically at branches, felling them to save them from the worse destruction of the fire.

No use! What could men avail against a force like this, a force mocking at their puny efforts, sweeping on, on——

It had leapt across the trench, caught the first draft from the treacherous gully, with a roar like a roar of a maddened bull it started up the mountain-side, driving men before it, threatening to wind its deadly robes about them even as they ran——

"Back, back!" was shouted hoarsely from parched throats. "More trenches—more sacks —more—more——"

Choking, stumbling, gasping, the boys ran with the rest.

"Our radio!" cried Bob, in a rasping voice that he himself did not know. "We'll have to get the set out of danger! Then we can come back!"

The boys nodded and turned their stumbling steps in the direction of the lodge. Blindly they made their way through heavy underbrush and

over fallen trees, one thought uppermost in their minds—to get their radio set to a place of safety while there was yet time.

They had gone a considerable distance before they were out of reach of the flying embers of the fire, before they found relief from the suffocating smoke of it.

Then they paused for a moment, exhausted, and sank down upon the ground. They brushed the hair back from their hot faces, wiped the perspiration from their eyes and stared at each other. So begrimed were they, so soot-blackened and altogether disreputable, that it would have been hard to recognize them as the same boys that had left the lodge so short a time before.

Herb grinned with something of his old, unquenchable humor.

"I guess our own families wouldn't be able to recognize us now," he said. "We sure are some mussed up."

"And we're liable to be more so before we get through," said Bob, getting stiffly to his feet. "Better keep going, fellows," he said. "There's a lot of work to be done yet."

They started on again, knowing by the sound of the fire behind them that it was still gaining alarming headway.

"Lucky that wind quit just as it did," panted Jimmy, his breath coming in short, labored gasps.

"If the gale had lasted much longer it would have been all up with us, I guess."

"If only we can check the fire before it has us surrounded we may have a chance," said Bob. "But if that fire line meets——"

He left the sentence unfinished, and as they came in sight of the lodge he made a dash for it, flinging open the door. The boys worked feverishly, striving to do an hour's work in a few minutes.

The set must be dismantled and carried to a place of at least comparative safety. The lodge was no place for it at all. It was directly in the path of the flames and there was every probability that the little house would have to go with all its contents.

It was characteristic of the boys that it never entered their heads to try to save anything but their beloved outfit. Millions of dollars' worth of timber was endangered, to say nothing of men's lives, and their one thought was to rescue the radio set and get back to the fight.

It was a nightmare that they would never afterward forget, pulling at bolts and wires with burned and trembling fingers. Everything seemed unfamiliar, unreal, to them, the very apparatus itself seemed to fight their frantic efforts to save it. They had moments of thinking they must give up in despair.

But they worked doggedly on and finally accomplished what they had set out to do. The radio was dismantled and ready for moving.

"But where shall we take it too?" asked Jimmy, helplessly. "There's no place——"

"Down by the lake," Bob broke in quickly. "That's the safest spot just now. Later, if we have to, we can come back for it."

So down to the shores of the lake they bore the apparatus, then turned and, once more, ran in the direction of the fire.

"If this timber burns up," panted Joe, as the thickened smoke in the air told them they were getting close to the blaze, "it will be an awful loss to Doctor Dale and the Old First Church."

A few moments more, and they plunged again into the thick of the fight.

CHAPTER XX

A TERRIBLE BATTLE

THE Radio Boys found it harder now to fight against the onrushing flames. They had entered the battle full of fresh strength and energy, but now that had been in a large measure spent, and it was on sheer will power that they flung themselves once more into the inferno of heat and smoke.

If it had been bad before, it was almost unendurable now. Terrible blasts of heat smote down upon them, while billows of acrid smoke threatened momentarily to overwhelm them. Gasping and choking, with the hot fingers of fiery destruction clutching at them, they threw themselves face downward on the ground, seeking momentary relief from the searing torment. But even as they lay striving for a breath of pure air, their clothing smoldered and smoked, bursting into tiny flames here and there.

Bob leapt to his feet, beating out patches of flame from his garments, and the others struggled up, looking to him for leadership in their

dire extremity. Obviously, the fire was now utterly beyond control, and to attempt to stem its onward rush would be madness. How to save themselves from that red destruction was all they need consider now.

Look where they would, they could see red lines of fire. The tremendous crackle and roar of the oncoming conflagration crashed on their ears. Whatever they were to do must be done quickly, for no man could live long in that scorching, searing heat. The thought of the lake flashed into Bob's mind, and with a shout to the others to follow, he started off. But he did not go far. Between them and the lake was a towering mass of flaming trees which effectually barred progress in that direction. But it might still be possible to skirt around the fire, and like a flash Bob thought of an old woods road that ran in a rough semicircle through the woods and ended not far from the lake. The smoke was so thick that it was agony to see or breathe, while the heat became more intense every instant.

With a shock and a curious sense of surprise it came to Bob that death was close upon him and his comrades, that they were marked to die in that chaos of falling trees and leaping flame. With the thought came a creeping, paralyzing sense of helplessness and panic and a temptation to surrender to the inevitable. But only for a

second. Then he gathered himself together and shook off that nightmare feeling. He was young and strong, and death was not for him. With a gasping shout he started off in the direction where instinct, more than anything else, told him that the old woods road started, and the others staggered after, their failing spirits still clinging to a trust in the leader who had never yet failed them.

Searching frantically back and forth, Bob at last located the opening he sought, and dashed in. The others followed, and they all staggered along, tripping, falling, staggering to their feet, but always a little nearer their last hope of life—the lake!

They had covered perhaps half the distance when they were stopped short by a shout from a thicket to one side of the road.

"Save me, or I'll be burned up! Save me!"

Had the Radio Boys been of another breed, they would have thought only of their own safety and paid no attention to the plea for assistance. But they were incapable of refusing aid to another, no matter how great their own peril, so they turned off from the road and presently came to the source of the outcry.

Prone on the ground lay Buck Looker, yelling lustily but making no other effort to save himself. Indeed, he was so unnerved by terror that had

the Radio Boys not come to his assistance it is probable that he would have lain in the same place until the fire found him and put an end to his career. It was all they could do to haul him to his feet and drag him along with them, but they did their best, although this greatly retarded their own progress. And they could ill afford to lose time. The fire was rapidly closing in upon them.

Ahead they could see the opening through the trees which marked the end of the road, and they knew that the lake was only fifty yards or so past this. But even as they looked, some wandering breeze threw a tuft of flame into one of the trees ahead, the leaves and branches burst into flame, and the archway through which they would have to pass was outlined in fire.

Buck gave a howl of terror, and even the Radio Boys hesitated, appalled at the sight. They gazed desperately about them, but on every side the red tongues of the fire demon were lapping greedily at them. There could be no stopping and no retreat. To advance seemed almost as hopeless, but there was no choice left them.

Their chances were further diminished by the fact that Buck, overcome by terror, had fainted, and they were forced to carry his inert form between them. How they ever covered the remaining distance none of them could afterward tell.

They had literally to run through the fire for twenty feet at the end, and when they emerged into the open space bordering the lake their clothing was afire in several places. Summoning the last remnant of their strength, they rushed toward the lake and threw themselves into the blessed coolness of the quiet water.

Words cannot describe the relief and luxury of that plunge. They splashed about, cooling their parched and blistered skins, reveling in their deliverance from the furious heat that pervaded the air. Close to the surface of the lake the atmosphere seemed cooler and less smoky, and it was possible to breathe and live.

At the first touch of the cool water Buck Looker had regained consciousness, but he was still overcome with terror and the fear of death, and did nothing but mutter and moan to himself. The Radio Boys took little further notice of him, however, but set about salvaging their radio set, which they had left close to the bank of the lake.

The fire was closing in on the lake from every side now, while the heat steadily waxed greater and stronger. The boys were forced to duck under the water continually, to get relief. Burning leaves and sticks hissed down on the lake in a steady shower, while the crackle and roar of the fire were deafening. In only one direction was there a break in the ring of flame, and that

was on the side where their bungalow was situated. From that direction came a faint breeze, which fanned the fire to even greater fury, but at the same time drove it back on itself, so that its progress there was greatly retarded.

"It's getting too hot along the shore, fellows," said Bob. "Out near the center of the lake we'd be further from the fire and have a better chance."

"Yes, but we can't swim forever," objected Joe. "We'll have to get hold of something to keep us afloat."

"Oh, that part is easy enough," replied Bob. "There are plenty of logs that we could shove out and hang onto. But if we're going to save the radio equipment, we'll need something more substantial. Maybe if we work fast we can sling some kind of raft together that will do the trick."

"That's the idea!" exclaimed Joe. "Up and at it, fellows. We might as well get cooked a little more while we're about it."

In spite of the scorching heat, the boys dashed up the bank and ran to the place where they had left their radio equipment. They were none too soon, for the fire was within a hundred yards of it. The metal parts were too hot to be touched, but as yet nothing had been damaged. To construct any kind of raft under such conditions was extremely difficult, but the boys went at the

task with a dogged determination that refused to recognize the word "impossible." Their wet clothes steamed in the heat, and at short intervals they were forced to dash into the water and wet them anew.

Nevertheless, by dint of tremendous exertions, they dragged several logs together. Then the problem arose of fastening them together, and this time it was Jimmy who had the inspiration.

"There's a big roll of new antenna wire somewhere in that pile of equipment," he said. "If we can get hold of that it will be just the thing to lash the logs together with."

This idea seemed so good to the others that they acted on it instantly.

A short but furious search brought the coil of wire to light, and with it they lashed the logs securely together. This gave them a fairly substantial raft, capable of floating them and their equipment. The work was finished not a moment too soon. The breeze had freshened, sending waves of terrible heat over them, and at the last moment they were almost forced to leave their precious radio outfit and take to the water without it. It required a high type of courage to work in that inferno, but they stuck gamely to it, while the skin on their hands and faces blistered and peeled, and their clothing steamed and smoked and broke into patches of flame.

With the strength born of necessity they pushed and hauled the raft into the water and loaded their radio outfit on it. Then they plunged in themselves, and headed away from shore, swimming and pushing the raft before them.

CHAPTER XXI

PLUNGED IN THE LAKE

ALL the time that the Radio Boys had been working to construct the raft, Buck Looker had remained just where they had left him, never even offering to help. But now, when he saw the raft actually made and floating, he gave a yell and struck out for it.

"He's not going to get on that raft," muttered Bob, grimly. "He's better off in the water, anyway. We'll let him hang on with the rest of us, but if he gets on top he's just crazy and mean enough to knock some of the radio stuff overboard."

"It would be a pretty mean stunt, after we saved his life, but I know well enough that he's capable of it," said Joe. "We'll have to keep him off, that's all."

By this time Buck was close to the raft.

"Keep off, Buck!" shouted Bob. "Hang on to the raft, if you want to, but don't climb up on it."

Either Buck did not hear him or he decided to ignore the warning. In a few more strokes he had reached one corner of the raft and started to climb aboard. His weight tilted the raft at a sharp angle, and some of the equipment started to slide down toward that end.

Joe was nearest to Buck, and he saw that there was not an instant to lose. He rapidly pulled himself along the side of the raft, and when he got within reach dealt Buck a blow that made him loose his grip on the raft. The clumsy structure returned to an even keel, while Buck snarled at the Radio Boys in anger and resentment.

"What are you trying to do, Joe Atwood—drown me?" he blustered. "If I was on dry land I'd make you feel sorry for hitting me that way."

"If you were on dry land you'd be burnt to a crisp right now." said Joe, scornfully. "We saved your worthless life at all sorts of risk to ourselves, and then you repay us by trying to dump our radio apparatus into the water."

"I suppose you'd like to save that junk even if you let me drown, wouldn't you?" whined Buck.

"It seems to me that it's worth a lot more than you are," snapped Herb. "If the choice were left to me, I'd say save the radio, every time."

Of course, he did not mean this, but he spoke in anger.

Buck gave him a black look, but made no further reply, and when he saw that the boys were determined not to allow him on the raft, he contented himself by hanging to the side, as the others were doing. Indeed, as Bob had said, this was the best way, after all, for it was the only escape from the fierce heat of the atmosphere. The Radio Boys took off their tattered coats and spread them over the radio outfit in order to protect it from the blistering air.

The boys pushed the raft further and further from shore, as the fire reached the water and burned fiercely. As they rounded a bend in the shore, they became aware that they were not the only living creatures who had sought refuge in the lake. Dotted about over the surface were the antlered heads of several deer, together with a number of smaller animals. But in addition to these harmless creatures the boys could see several shaggy black heads that undoubtedly belonged to members of the bear tribe.

"There's a chance for you, Jimmy," said Herb, unable to refrain from his jokes even in the face of this new danger. "You were telling us how you enjoyed killing bears for breakfast. As far as I can make out, there are enough bears in this immediate neighborhood to satisfy the most am-

bitious hunter. How will you take 'em—one at a time, or all together?"

"Gee, willikins!" exclaimed Jimmy. "I'll steal some of Buck's thunder, and tell you what I'd do to 'em if we were all on dry land. Seeing we're all in the lake, the only thing I can think of is to call loudly for assistance."

"Now you're stealing Buck's stuff again!" Herb pointed out, and, in spite of their desperate situation, the boys could not help laughing at the ludicrous expression on Buck's face, half of anger and half of shame. However, they had little time for laughter. Several of the bears had sighted the raft and were coming over to investigate.

Now, in times of fire or flood, the wild creatures seem to forget their savage instincts for the time being, and in the common peril seem to pursue a policy of "live and let live." The bears in the lake were too terrified to have any desire to attack the boys, but they were tired of swimming and wanted some place where they could rest. The raft looked inviting, and as the boys were unarmed it was hard to see what effective resistance they could make to the powerful animals. Once let them start to climb aboard, and the raft would inevitably be swamped and all the radio apparatus lost.

The boys were not slow to realize this, but

that was of little avail unless they could think of some way to drive the animals off. All this flashed through their minds as they gazed blankly at each other, while the bobbing black heads came steadily closer. Buck Looker did not even try to think, and could only gaze terror-stricken at the approaching brutes while his teeth chattered from fright and he whimpered like a whipped puppy.

"Aw, cut out that blubbering, can't you?" exclaimed Bob, impatiently. "How can we think of anything when that noise is going on?"

"B-but they'll kill us all," moaned Buck. "We're as good as dead already."

"Say, you'd be a lot better dead than alive, seems to me!" exclaimed Joe, contemptuously. "If you can't do anything else, keep quiet, as Bob says. If you give us a chance we may save your worthless life once more to-day."

"If we only had a gun or two!" said Herb. "I haven't even a jackknife to put up a fight with."

"We've got about the most powerful force in the world to-day right at our command, haven't we?" demanded Bob, with a note of suppressed triumph in his voice.

"What do you mean?" they demanded, all together.

"Why, electricity, of course," said Bob. "That raft is loaded down with it. We've got two

fully charged storage batteries there, haven't we? And any number of induction coils? If we work fast, we may be able to give the bear family the shock of their lives when they arrive."

The others caught his idea in a flash.

"You mean connect up the batteries with the primary coil and give the bears high voltage juice from the secondary coil, is that it?" questioned Joe.

"That's just it," replied Bob. "But we'll have to step lively, or they'll be here before we can get ready for them. You and I can do the hooking up, Joe, while the others keep the raft steady and try to scare the bears off for a little while. I'll climb aboard first, while you fellows put your weight on the far side so that our ship won't tip too much."

This maneuver was accomplished without a hitch, and Bob was soon safely on the raft. Out that far on the lake the air was a little cooler, so that it was possible to work without being scorched. Once aboard, Bob helped Joe to clamber on, and then they fell to work like madmen, stripping wires and making connections. The batteries they connected in series, thus doubling their voltage, and then connected them to the primary coil of their inductance unit. Fortunately the latter was an unusually large and powerful one, and the induced voltage in the secon-

dary was very heavy. Owing to the high resistance of the secondary the amperage was necessarily low, but when the primary circuit was made and then suddenly broken the induced voltage in the secondary was of such strength as to give a paralyzing shock to any object with which it might come in contact. One side of the secondary was grounded to the water, and then their impromptu shock-giving apparatus was ready for use.

And not a minute too soon. The bears, five in number, had been circling about the raft, somewhat doubtful about its nature, but without doubt desperate enough to rush at it as soon as they became familiar enough with it. Bob had hardly made the last connection when Jimmy uttered a warning cry.

"They're coming, Bob!" he yelled. "All five of them at once!"

CHAPTER XXII

FIGHTING OFF THE BEARS

JIMMY'S warning came not a moment too soon, for the words were hardly out of his mouth before two of the bears came splashing toward the raft. Buck Looker gave a yell of terror and started swimming away as fast as he could. Jimmy and Herb had to let go, too, and swim out of the reach of those big paws that were propelling the bears forward at surprising speed. The largest one was soon close to the raft, and Bob could see one big paw lifted in preparation to climb aboard.

With one hand Bob depressed the key that completed the circuit through the primary coil and held the end of the high tension lead, which he had lashed to a long stick, close to the bear's moist black nose. Then he released the key.

With a hiss and a snap a long blue spark crackled between the terminal and the bear's nose. Bob worked the key rapidly up and down, and at each break another high voltage spark jumped

to the animal's sensitive snout. Each spark had the force and effect of a heavy hammer blow, and the bear half roared and half squealed in pain and fright. One big paw came up and tried to brush away that agonizing, stunning thing, but this only transferred the sparks to his paw. With a terrified squeal he turned about and swam off at top speed. The other bear was puzzled at the behavior of his companion, but he could see no reason why he should not get up on the raft, even though the other, for some incomprehensible reason, had failed. Accordingly he made a rush, but was even less fortunate than his predecessor, for by now Joe had gotten his outfit to working properly, and the animal had to face two streams of sparks instead of one. They tore through him with paralyzing force, and he slipped back into the water, hardly able even to swim.

Meanwhile the other three bears had been swimming about the raft, growling and grunting. The fate of their two companions made them suspicious and puzzled them, but at last they seemed to muster up courage all at the same time, and as though through a preconcerted signal they charged down on the raft at once. For a few minutes it was nip and tuck, and it looked as though the bears might win by sheer weight of numbers. One actually dragged himself half way up on the raft, tilting it at such an angle that

it was all Bob and Joe could do to keep their footing. Once Joe's stick was knocked out of his hand, and Bob had to stand off all three until he could recover it. Herb and Jimmy swam about, almost crazy with the desire to help their hard-pressed comrades, but of course unarmed as they were, there was nothing that they could do. Indeed, they were taking big risks by remaining close to the raft, for there was no telling when one of the bears, infuriated by the baffling electric discharges, would attack one of them by way of venting its fury. Luckily, however, the animals were so dazed and frightened by the novel defense put up by these strange beings on the raft that there was little fight left in them, and their only thought was to get away from that stinging, hammering torment as soon as possible. With grunts and squeals they turned tail to the raft, their going accelerated by a string of writhing blue sparks that hissed and snapped after them as long as Bob and Joe could reach them with their long poles.

The discomfiture of the big brutes was so sudden and complete that the boys were actually surprised at their own success. But the victory had not been won so easily as they had supposed. The bears, it is true, had been driven off, but they had gone no great distance when they stopped and began circling about the raft, growl-

ing fiercely and evidently meditating a further attack.

"If they all come on at once, we'd better all be on the raft to ward them off," said Bob. "We can rig up two more electrodes, and we may need them all before we get through."

"That suits me," said Jimmy, proceeding with considerable alacrity to climb up on the raft. "It isn't hard to see that those fellows can swim about ten yards to my one, so if they ever took the notion to go after me, they'd probably get me."

"And a nice, juicy meal they'd have, too," said Herb, as he clambered up on the raft. "I know if I were a bear, Doughnuts, I'd go after you first thing."

"Well, naturally," retorted his friend. "No bear would waste his time going after a bean pole like you. You wouldn't make a square meal for a cub."

"Hey, can't you fellows ever cut out that funny stuff?" demanded Joe. "Suppose you cut out the phony humor and get busy hooking up some wires here. It won't be any joking matter if those brutes come for us again before we're ready for them."

"Oh, sure," said Herb. "Anything to oblige. Just give me a pair of cutting pliers and watch my speed."

Joe uttered a grunt that might mean anything, but handed him the pliers, and they all fell to work with a will. Buck came swimming back to the raft, and the boys helped him aboard, although he could do nothing useful and was only in the way. It was in times of stress such as this that the difference between boys like the Radio Boys and those of Buck Looker's stamp became most apparent. All their lives they had engaged in clean, healthful sports and occupations that had developed their strength and resourcefulness until they were equipped to meet the emergencies in life in an efficient manner. Buck, on the other hand, had just loafed around with friends as idle as himself, killing time and jeering at the efforts of others to be of some use in the world. Then when some emergency arose demanding quick thinking and strong, active muscles, he was completely at a loss and had neither the resource to plan nor the ability to execute.

So at the present time, although he was ashamed of having been so cowardly and would have liked to help in the defense of the raft, he did not know how to do any of the necessary things, and so could only sit and watch the others as they deftly performed their tasks, doing everything quickly and efficiently without any lost motion. Buck was not so stupid as to be entirely insensible to his shortcomings, and even

formed some vague resolutions to try to do better in the future.

But those on the raft were afforded little time for idle thoughts. The bears kept circling closer and closer, and, to make it still worse, their numbers had been augmented by two new arrivals who had not had a taste of the induction coil and were proportionately brave. The boys had barely made their last connection when the bears, with a chorus of growls, made for the raft, their mouths open and little eyes twinkling viciously.

The sight was a fearsome one, but there was no way of retreat open even had the boys been so minded, which was far from the case. They were resolved to save their radio outfit, and moreover were encouraged by the success of their former defense.

This time they had a harder rush to stem, as they soon found. The bears flinched away from the stream of sparks emitted by the four high tension terminals wielded by the boys, but they could attend to only four at a time, and meanwhile the other bears were attempting to get a foothold on the raft.

Fortunately, this was not an easy thing to do, as the logs were slippery and difficult to climb up on. For several minutes the result seemed in doubt. Jimmy's pole was swept out of his grasp and thrown twenty feet by one sweep of a big

black paw. Fortunately the wire broke under the blow, otherwise the whole coil would have been dragged into the lake, and the boys would have been helpless against the attack. As it was, this cut down the number of the defenders, and it seemed as though the bears would surely overwhelm the frail raft. Jimmy worked like a madman trying to connect up another wire, but before he could get one in operating condition the fate of the battle had been decided. The bears, bewildered and stunned by the mysterious force that shot through them like the stabs of red hot wires, and that all their tremendous strength was powerless to ward off, finally gave way. First one and then another turned tail and paddled away, splashing and whimpering, baffled by the weapon wielded by these beings who seemed so puny to look at, compared to them, and yet held lightning in their hands. One big fellow persisted when all the others had given up their attempt, but the boys concentrated three crackling blue spark streams on him, and that proved to be more than he could stand. With a cross between a growl and a squeal he splashed away in the wake of his companions, who were snorting and charging through the water like a fleet of ferryboats.

Left in undisputed possession of the raft, the boys drew long breaths of relief and took stock

of damages. Herb had four deep furrows on his left hand, where a bear's claws had grazed it. Jimmy, now that the excitement was over for the time, discovered that his wrist had been badly sprained when the bear had knocked the stick from his hand, but aside from these comparatively minor injuries, the boys were in good shape.

The raft had suffered more, in its way, than they had. The efforts of the big animals to climb aboard had loosened several of the outside logs, and broken some of the strands of wire that bound them together. However, there was plenty more wire on the raft, and the boys immediately set to work to repair the damage. Now that the bears had gone, they began to realize that the heat, which in the excitement of the fight they had hardly noticed, was again growing intense, and they were glad enough to plunge once more into the lake to make repairs on the raft.

"While we're about it, we might as well make a thorough job of it," observed Bob. "There's no telling how long we may have to stay out here in the lake, and we might better take a little more trouble now and make everything as secure as possible."

The others had no objection to make to this, except Buck Looker.

"Aw, what's the use of bothering with it," he observed. "I guess these old logs will hold together as long as we need them."

"Yes, but guessing isn't quite good enough for us," observed Joe. "When we finish a job, we want to *know* that it will do the work it's intended to do. You have to take enough chances in this world, no matter what you do, without making more chances by your own carelessness."

"That's the stuff!" cried Bob approvingly. "If a job is worth doing at all, it's worth doing well, as somebody remarked about ten thousand years or so ago."

They wound the wire again and again about the logs, and then tightened it by looping other strands between each pair of logs and drawing the wire on opposite sides of the raft as taut as they could get it. They made a good job of it, even though they were working under tremendous difficulties, and the time was not far away when they had good reason to congratulate themselves on the fact that they had done so.

CHAPTER XXIII

A DESPERATE CHANCE

THE fire still burned with unabated fury along the shores, and so great was the heat that the lake was actually getting warmer. It was a large body of water, fed by ice-cold springs, and as a rule it was almost too cold for comfortable swimming. But now it had grown almost tepid, so much so that numerous fish, unused to any but a cold lake, were killed by the unaccustomed warmth and numbers of them began to make their appearance on the surface of the lake. The boys were ravenously hungry, but they had no way of cooking the fish, and they were far from being hungry enough to try to eat them raw. In their flight it had not occurred to any of them to take food along, and now they regretted the oversight, especially Jimmy, who looked longingly at the beautiful bass and lake trout so close to his hand.

"Say!" he exclaimed, "wouldn't one or two of those fellows taste good, nicely broiled and served hot?"

"There's plenty of fire on shore," Joe pointed out. "Just swim over and poke one or two of those fish up on the bank, Doughnuts, and they'll be ready to eat in no time."

"Well, if you'll furnish me with a nice asbestos suit, maybe I'll try it," retorted Jimmy, "Don't forget that I might get cooked even sooner than the fish."

"Oh, we'd have to take a chance on that," said Joe, heartlessly.

"Maybe you'll have to, but I won't," replied Jimmy, with conviction in his tones. "Go over and broil yourself, if you want to."

"I will—if I want to," Joe assured him.

"It's a wonder you can't cook the fish with your precious radio set," said Buck, with one of his customary sneers.

"Don't be too sure that we can't!" exclaimed Bob, as Buck's words gave him an idea. "Haven't we got some German silver resistance wire on the raft, Joe?"

"Yes, I'm pretty sure we have," returned his friend. "What do you want it for?"

"Why not make an electric grid out of some of it?" asked Bob. "The wire is a fine gauge, and the electricity from the batteries will heat it red hot in a few seconds. We can mount it on a few insulators and cook as many fish as we like. How does that strike you, Jimmy?"

"Hooray! Just what the doctor ordered!" responded that individual. "You rig up the stove, Bob, and I'll get hold of a couple of fish and clean them. See which will be ready first."

"What do you think of the radio set now, Buck?" inquired Herb. "You thought we couldn't cook with it, but in about ten minutes we'll show you that we can. Maybe after a while we'll make a fan out of you. Although it hardly seems possible. It takes brains to understand radio."

"Aw, I could understand it if I wanted to," growled Buck.

But there was little conviction in his tone. He and his cronies had consistently scoffed at radio, and told everybody who would listen to them that it was just a fad and not a serious science. And they had said it so often, that they had actually come to believe it.

Now, in a short space of time, Buck had seen how that same radio set that he had scoffed at had been utilized to fend off the bears, and he was about to see it utilized to cook their food. Concerning the latter he was still skeptical, however. He suspected that the Radio Boys were just trying to fool him, but this idea was somewhat shaken when he saw the business-like way in which Jimmy proceeded to scoop up two fat fish and clean them.

Meanwhile, Bob and Joe had been busy on the raft and had strung several coils of thin resistance wire across some flat porcelain insulators. Then they connected one end to one of the storage battery terminals, and connected the other end to a small knife switch, which was in turn connected to the other terminal of the battery. Now everything was ready to test their impromptu stove, and while the others looked on expectantly, Bob closed the switch.

The result was too good. They had not strung enough resistance wire to cut down the amperage sufficiently, and a second after Bob closed the switch the wires sprang to a white heat and a second later one strand melted, breaking the circuit before Bob even had time to open the switch.

"Good night!" exclaimed Herb, while Buck Looker viewed this practical demonstration of electricity's heating power with astonishment writ large on his face. "You'd better stick about three times as much resistance into that circuit, Bob. Those batteries are sure full of juice."

"I guess you're right," admitted Bob. "If we'd had a pencil and a table of resistances we could have calculated the right length of wire to an inch, but since we haven't any such convenient things along, we'll have to get the right length by experiment."

"Well, I win on speed, anyway," said Jimmy,

complacently. "My fish are all ready to be cooked, and I don't see that your stove is ready to cook them. You've got to step lively to beat out your Uncle Jimmy."

"Guess he's right, at that, Joe," admitted Bob. "He's hung it on us this time, anyway. But this stove's ready for another test now, and I have a hunch we'll have better luck this time."

Once more he closed the switch, and this time the results were all that could be desired. After a few seconds the resistance wire glowed a dull red, then a brighter red, and stayed there, showing that about the proper amount of current was passing through the circuit. Bob placed three more insulators loosely on top of the wires to hold the fish a slight distance away from them, and then the stove was ready.

"Hand over your fish, Doughnuts, and we'll put a golden brown on them that would make a French chef envious," said Joe, and as Jimmy complied he placed them over the glowing wires.

"If this blamed smoke weren't so thick we could smell them cooking pretty soon, and that would make them taste all the better," lamented Jimmy.

"Never mind the smoke. How about the heat?" demanded Joe. "It feels to me as though I must be cooking almost as fast as those fish. I'm going to take a duck in the lake."

"You won't cool off much that way," Jimmy warned him. "The lake is lukewarm."

"No, and you won't get any cleaner," added Bob. "Just look at that black scum over the water!"

The boys had been working under a constant shower of burning sticks and leaves that dropped steadily into the lake. But by this time they had become so used to this continual bombardment that they scarcely noticed it. Hot bits of charcoal hissed against their clothing, and they brushed them off into the lake with almost as little concern as they would have shown in brushing away a troublesome mosquito. They were badly blistered in many places, especially their hands and faces, but they had become so used to the stinging pain that the Radio Boys did not bother to remark upon it now to each other. Buck was the only one of the little party who complained, and even he did not say very much, being ashamed to when he saw the others showing such fortitude. They kept their clothing wet by frequent dips in the lake, and waited with what patience they could for the fire to burn itself out. There seemed little immediate prospect of this, however, because the trees surrounding the lake were all of giant size, and as time passed on the heat seemed to wax hotter instead of getting less. They were filled with bitterness, however,

when they thought of the bungalow and all the valuable timber belonging to Dr. Dale and the church, which they believed was almost certainly on fire by now.

They were roused from these gloomy thoughts by a sputtering and crackling over their impromptu electric stove, which warned them that the fish were rapidly becoming cooked. Jimmy took charge of them at this stage, being a good cook as well as a young man rarely endowed with appreciation of the good things of the table.

"I'm sorry I haven't any seasoning for these beauties, but you'll have to get along the best you can without it," he said. "This fish is done now, and I'll whack it up the best I can. If there isn't enough, we can easily fish one or two more out of the lake."

In spite of Jimmy's apology the fish tasted good, although before they were all eaten the boys were in the water again, seeking relief from the suffocating heat. After that there was not much they could do but keep their raft well away from the blazing shore and pray for rain, which they all did fervently.

CHAPTER XXIV

THE BLESSED RAIN

THROUGH the blazing forest the wind tore its way, gathering up as it went the blazing crowns of trees and throwing them, like a baleful giant at sport, high up in the air, where they separated and fell like thousands of skyrockets at once.

At any other time it would have been a spectacle of such magnificence that it would have held the boys spellbound. But there was nothing in it now but terror and deadly peril to life.

The Radio Boys braced themselves to meet the ordeal, and for the sake of the others held their fears under control. But in their secret hearts they believed that none of them would come out of that fiery furnace alive.

But there was one on the raft who had no hesitation in letting his fears be known, and that was Buck Looker. He crouched down on the raft, his usually red face blanched with fright, whimpering and whining and mumbling incoherently.

It takes an ordeal like that through which the party on the raft were passing to bring each one

out in his true colors. There was no question as to Buck's color. It was undeniably yellow.

A great mass of branches, all aflame, was carried out by the wind and fell in the lake not more than twenty feet from the raft. Had it fallen on it, the party would have been enveloped in flames in a moment. Even at that distance, the heat seared their faces as though with a hot iron, and to save their eyes they covered their heads with their wet coats.

Buck gave a wild shriek as the blazing mass came down.

"It's got us sure!" he yelled, grabbing at Jimmy and pulling him between him and the blaze to give himself that much protection.

"For the love of Pete, let go of me," growled Jimmy, as he yanked himself away, in disgust at Buck's cowardice. "Don't make a fire screen out of me."

"Oh, why did I ever come up into these woods?" moaned Buck.

"Chiefly because Bob gave you a licking," Herb muttered to himself, his sense of humor not wholly subdued even by the peril he was in.

Buck made a grab at Joe.

"Do you think there is any hope?" he whined. "Oh, don't tell me that there isn't any hope!"

Joe shrugged his shoulders.

"Search me," he said curtly. Then, as he

looked at the abject creature, he could not help feeling some pity for him despite the contempt he had for him, and added more gently: "Of course there's hope. Brace up, Buck, and get a grip on yourself. We're worth a dozen dead men yet."

"Dead men!" repeated Buck. "Oh, don't speak of death! I don't want to die!"

"I guess none of us does," remarked Bob kindly. "Now, Buck, try to calm down. You see that the water is putting out those blazing branches, and we're getting out now into the middle of the lake. I guess we'll pull through all right."

"I know I haven't treated you fellows right," whimpered Buck. "But if you once get me out of this I'll never do anything against you again."

Bob did not reply, for at that moment he felt upon his face what seemed like drops of rain. At first he thought that it was spray from the rough water on which the raft was tossing. But he held his face upturned and felt several more large drops come pattering down.

"Hurrah, fellows!" he cried, in wild jubilation. "It's raining!"

"What!" yelled Joe unbelievingly.

"You're fooling!" cried Herb.

"More likely it's water from the lake," asserted Jimmy.

"It's rain, I tell you!" exclaimed Bob. "Hold your faces up and feel it. Glory, hallelujah!"

A moment more and doubt was impossible, for with a swish and a roar the rain began to come down in torrents.

How they welcomed it! How they gloried in it! In a few minutes they were drenched to the skin with water colder than that of the lake, but it seemed to them that they had never had such a delightful sensation.

For that blessed rain meant salvation, salvation not only for them but perhaps for scores of others who, like themselves, had been trapped in that ring of flame. It meant the conquering of the fire fiend, that red demon who for hours past had been threatening them with a terrible death.

"If it only keeps up, if it only keeps up!" they found themselves repeating again and again.

And the frantic hope that was really a prayer was answered. How it rained! It was like a cloudburst. Down, down it came in torrents that seemed inexhaustible.

And as the floods descended, the boys watched with delight the effect it had upon the fire. At first it was hardly perceptible, and the flames still towered toward the skies. But after a few minutes the blaze began to lower and waver. The heart of the forest was still crimson, but at the outer edges, above and around, little columns

of smoke began to dull the red welter. And it stopped spreading. The trees that had not yet caught were now beyond likelihood of catching. The red fingers that reached out for them found not dry timber but dripping, soaking trunks and branches on which the fingers slipped. The fire was beaten. It might be hours before it would admit defeat and slink out of sight, but it was beaten just the same. The beginning of the end had come!

CHAPTER XXV

SNATCHED FROM DEATH

BUT the jubilation of the Radio Boys at the victory of rain over the flames soon gave way to feelings of alarm at a new danger that threatened them.

The wind seemed to abandon the upper stretches of the air and swooped down on the lake. Soon it had become a howling gale that churned the waters into foam and tossed their frail craft about like an eggshell.

Had they been in a canoe or even in an ordinary rowboat, they could not have survived. But the broad surface that the raft presented to the water made it difficult to upset it, though at times it seemed as though it would throw a complete somersault.

Up and down it went sickeningly, at one moment on the crest and the next in the trough of the waves. Again and again the water came aboard and swept the raft from end to end, and the boys had to dig their hands and feet into the crevices of the raft and hold on for dear life.

Bob had thrown himself at full length on the raft, one arm flung about the radio set which otherwise would have been washed overboard.

Buck's fears had again been aroused by the new peril, and he broke out into lamentations, which might have had an unnerving effect on the other boys had they not been half-smothered by the clamor of the wind and waves.

Suddenly a new sound broke through the din, a noise that the boys from their experience at Ocean Point recognized at once as the roar of waves beating on the shore.

In a sense this was welcome, as it told them that the land was near. The solid earth never seemed so precious to them as it did at that moment. They were expert swimmers, and in ordinary circumstances could swim to the shore if they were thrown from the raft.

But these were far from being ordinary circumstances. No swimmer could live long in such a storm, when the waves might easily beat him into unconsciousness. The shore might be steep and slippery, so that they could not get a hold either with hands or feet. And if the raft were hurled on it, some of its occupants might be stunned by the shock or by something against which they might be thrown, and thus lose their chance of safety.

"Stand by, fellows," shouted Bob, his words

barely heard above the shrieking of the storm. "Keep as close together as you can and be ready to help. One for all and all for one. Remember!"

The words had barely left his lips when there was a terrific concussion as the raft was thrown on a group of rocks lining the shore of the lake. The craft hung there impaled, while all of the boys were flung headlong into the cruel, swirling waters.

Those waters beat upon them mercilessly, seeking to drag them back into the lake. But they clung desperately to projecting points of rock until the wave receded. Then they were rejoiced to find that their feet could touch bottom. Before the next roller came in they had got in far enough to be safe, Bob dragging Buck, who had again collapsed, along with them.

They dragged themselves up on the shore, which luckily was sloping at that point, and then threw themselves down, too strained and exhausted to speak, but their hearts filled with an immense gratitude for their deliverance.

For several minutes they lay there panting. Then Bob sat up with a sudden exclamation.

"The radio set!" he cried. "Where is it?"

Without waiting for an answer he hurried to the shore. There at a little distance lay the raft, held fast in shallow water. And on it, to Bob's

great relief, rested the old reliable radio set, whose weight had held it steadfast.

Joe had followed him, and together they measured with their eyes the distance to the raft. It was only a few yards, and they knew that the water there was shallow.

"When I give the word, Joe," directed Bob.

They waited till the next wave dashed in.

"Now!" cried Bob, as it began to recede.

They rushed into the water, reached the raft, grasped the set and were half way back when the next wave caught them. But the weight of the set helped to steady them, and the next moment they were safe on the shore with their precious possession.

"Now," said Bob, "the next thing is to set it up and get in connection with Mr. Bentley."

They set to work at once with alacrity. Herb shinned up a tree with wire, from which he made an extemporized aerial, while Bob, Joe and Jimmy busied themselves with making a ground connection. In a few minutes the work was done, the battery was working and Bob was sending a message to wing its way through the ether.

"Radio Boys safe," he sent. "Stranded on coast of lake. Do you hear me, Bentley?"

Not more than a minute elapsed before an answer came.

"Thank God!" the message ran. "Had feared

you were lost in the fire. Will scout around until I find you. This rain is taking my job off my hands, and as soon as the fire is under control I'll start looking for you."

Bob communicated the message to the others who had crowded around and who were as delighted as he that he had got in touch with their staunch and reliable friend. All that they had to do now was to wait with what patience they could summon until rescue came.

And now that the greatest peril was past, they had time to take account of their plight. They were wet and haggard and bedraggled. Their hair had been singed in places, and there were blisters on their hands and faces. Their eyes were hollow and there were unaccustomed lines about them. They were frightfully weary.

But all these things seemed like trifles compared with the one great fact that their lives had been spared. How could they dream of complaining about anything?

The rain was still falling heavily, and the flames had died down. There was a red glow in the heart of the forest, which looked like one gigantic ember, and volumes of steam were rising to the sky. The fire had done its worst, but rain had proved its master.

Perhaps an hour elapsed, and then from afar they heard the roar of an airplane engine.

Nearer and nearer it came, until they could see the plane like a great bird coming toward them.

That the pilot had seen them as they waved their arms was evident by the way the plane began circling above them, looking for a landing. One was discovered in an open space not far away, and the plane came gracefully down. The boys rushed toward it, and the next moment Payne Bentley jumped out and was soon shaking hands and giving the boys bear hugs that showed how deeply he was moved by meeting with them again.

Then came questions and answers in quick succession that enlightened all of them on the situation of affairs. The boys told of their adventures, and the forest ranger in turn gave them the story of the fire. It had proved unexpectedly stubborn, and the fire fighters, worn and exhausted, were at the limit of their endurance when the rain had come to their help. In response to their eager inquiries, he assured them that the tracts belonging to Dr. Dale and the Old First Church had been saved without substantial damage.

The plane could not carry them all at once, and Mr. Bentley had to make two trips before the boys were safe and sound at a ranger's rendezvous beyond the zone of fire, where they were received with open arms and had the refreshment and rest they so sorely needed.

They ate till they could eat no more, and then slept right through the next twenty-four hours.

It was a much chastened and subdued Buck Looker who bade them good-by with what seemed real gratitude the following day. While the Radio Boys were somewhat in doubt as to whether the "leopard" could really "change his spots," they were willing to give him the benefit of the doubt and sent him away with their best wishes.

"Fellows," said Bob, as they were lounging in front of the house that had given them shelter, "if you had your choice, what would you rather be when you grew up—a radio expert or a forest ranger?"

The question was something of a poser, for each vocation had its special fascinations. Joe answered it in Yankee fashion by asking:

"How about you, Bob? Which would you rather be?"

"Both," answered Bob. "Just like Payne Bentley."

THE END

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